Environmental Assessment

Prepared by
U.S. Department of the Interior
Bureau of Land Management
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Chapter 1. Introduction

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Ten fires were ignited by dry lightning storms, arcing power lines, or were human caused and burned approximately 67,544 acres from May 10th to August 16th, 2012, on lands managed by the BLM, Ely District Office. A list of the fires and proposed treatments are found in the proposed action (Tables 2, 4 and 5) section of this document.

This Environmental Assessment (DOI-BLM-NV-L0000–2012–0004–EA) analyzes proposed treatments outlined in Emergency Stabilization (ES) plans and Burned Area Rehabilitation (BAR) plans that were written for these fires.

The 2012 Emergency Stabilization and Rehabilitation (ES&R) plans were written according to the policy of the BLM's ES&R program. The two programs are actually separate in their respective goals and policies. The ES plans are for treatments that are of an emergency nature and are to be implemented within one year of fire containment. The BAR plans are for treatments of a non-emergency nature and are to be implemented within three years of fire containment.

A summary of the Emergency Stabilization program is shown below, extracted from Departmental Manual Part 620 DM 3: Wildland Fire Management Burned Area Emergency Stabilization and Rehabilitation, May 20, 2004:

Emergency Stabilization (Program Objectives, Priorities, and Allowable Actions)

Emergency stabilization is defined as "Planned actions to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life and property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources. Emergency Stabilization actions must be taken within one year following containment of a wildland fire." (620 DM 3.3E)

The objective of emergency stabilization is: "To determine the need for and to prescribe and implement emergency treatments to minimize threats to life or property or to stabilize and prevent unacceptable degradation to natural and cultural re sources resulting from the effects of a fire." (620 DM 3.4A)

The protection priorities of emergency stabilization are: 1) Human Life and Safety, and 2) Property and unique biological resources (designated Critical Habitat for Federal and State listed, proposed or candidate threatened and endangered species) and significant heritage sites. (620 DM 3.7A)

Allowable emergency stabilization actions are limited to the following items:

- *Installing (i.e. signs), replacing or repairing minor facilities essential to public health and safety when no other protection options are available.*
- *Placing structures to slow soil and water movement.*
- *Stabilize soil to prevent loss or degradation of productivity.*
- *Increasing road drainage frequency and/or capacity to handle additional post-fire runoff.*
- *Installing protective fences or barriers to protect treated or recovering areas.*
- *Conducting assessments of critical habitat and significant heritage sites in those areas that may be affected by emergency stabilization treatments.*

- *Seeding or planting to prevent permanent impairment of designated Critical Habitat for Federal and State listed, proposed or candidate threatened and endangered species.*
- *Stabilizing critical heritage resources.*
- *Patrolling, camouflaging, burying significant heritage sites to prevent looting.*
- *Seeding to prevent establishment of invasive plants, and direct treatment of invasive plants.*
- *Using integrated pest management techniques to minimize the establishment of non-native invasive species within the burn area.*
- *Monitoring of treatments and activities for up to three years from fire containment.*
- *Invasive species treatments for up to one year from fire containment.*

The objective of rehabilitation is:

- *To evaluate actual and potential long-term post-fire impacts to critical cultural and natural resources and identify those areas unlikely to recover naturally from severe wildland fire damage.*
- *To develop and implement cost-effective plans to emulate historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with approved land management plans, or if that is infeasible, then to restore or establish a healthy, stable ecosystem in which native species are well represented.*
- *To repair or replace minor facilities damaged by wildland fire*

(620 DM 3.4B)

The priorities of rehabilitation are:

- *To repair or improve lands damaged directly by a wildland fire.*
- *To rehabilitate or establish health, stable ecosystems in the burned area.*

(620 DM 3.8A)

Allowable rehabilitation actions are limited to the following items:

- *Repair or improve lands unlikely to recover naturally from wildland fire damage by emulating historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with existing land management plans.*
- *Chemical, manual, and mechanical removal of invasive species, and planting of native and non-native species, consistent with policy.*
- *Tree planting to reestablish burned habitat, reestablish native tree species lost in fire, prevent establishment of invasive plants, and regenerating Indian trust commercial timberland as prescribed by a certified silviculturalist where no regeneration is expected for ten years following the fire.*
- *Repair or replace fire damage to minor operating facilities (e.g. campgrounds, interpretive signs and exhibits, shade shelters, fences, wildlife guzzlers, etc.).*

(620 DM 3.8M)

1.1. Identifying Information:

1.1.1. Title, EA number, and type of project:

2012 Fires Emergency Stabilization and Rehabilitation Project Environmental Assessment, DOI-BLM-L0000–2012–0004–EA

1.1.2. Location of Proposed Action:

The location of the proposed actions are within the Schell Field Office, Egan Field Office, and the Caliente Field Office, all of which are in the BLM Ely District Office. The table below shows the locations of each burned area where actions are proposed.

Table 1.1. Fire Location

FIRE NAME	FIRE NUMBER	LEGAL LOCATION	LAT LONG	UTM	BLM FIELD OFFICE
Basin	G4K0	T.7S R.63E Sec. 25, 35, 36 T.7S R.64E Sec. 20, 29-32 T.8S R.63E Sec. 1-3, 10-14 T.8S R.64E Sec. 5-8, 17, 18	37 16' 53" 114 51' 60"	689044 E, 4128210 N	Caliente
Del	G4UV	T.7S R.63E Sec. 36, 27, 33-35 T.8S R.63E Sec. 2-4, 9-11, 13-16, 20-36 T.8S R.64E Sec. 17-19 T.9S R.63E Sec. 1-5, 8-16, 21-24, 26 T.9S R.64E Sec. 6, 7, 18, 19	37 13' 24" 114 54' 19"	685770 E, 4121725 E	Caliente
Egan	GZ9J	T.10N R.62E Sec. 1, 2, 11-15, 22-24 T.10N R.63E Sec. 5-8, 18 T.11N R.62E Sec. 25, 35, 36 T.11N R.63E Sec. 19-21, 28-33	38 45' 19" 114 57' 7"	677937 E, 4291607 N	Schell
Greger-son	G3BL	T.7S R.64E Sec. 26, 27, 32-35 T.8S R.64E Sec. 1-5, 8-11, 15, 16, 21, 22	37 16' 43" 114 48' 26"	694395 E, 4128045 N	Caliente
Kane	G5M1	T.9S R.65E Sec. 24-27, 34-36 T.9S R.66E Sec. 19, 30-32 T.10S R.65E Sec. 1, 2, 12 T.10S R.66E Sec. 6, 7	37 7' 27" 114 39' 54"	707479 E, 411209 N	Caliente
North Schell	GX6G	T.20N R.65E Sec. 1,2,11-15 T.20 ½ N R.65E Sec. 2 T.20N R.66E Sec. 3-10, 15-21, 28-29 T.21N R.66E Sec. 29-33	39 36’ 24” 114 35’ 54”	707678 E, 4386912 N	Schell
Pahroc	GT9F	T.5S, R.62E Sec. 36 T.5S R.63E Sec. 31 T.6S R.62E Sec. 1-2, 11-14 T.6S R.63E Sec. 6-8, 17-20	37 25'21" 115 00' 07"	679018 E, 4143935 N	Caliente
Pinto	GZA5	T.19N R.54E Sec. 23-26, 35, 36 T.19N R.55E Sec. 19, 30, 31 T.18N R.54E Sec. 1, 2	39 29' 15" 115 51' 15"	598562 E, 4371351 N	Egan
Range	G0HM	T.17N R.64E Sec.20-22, 26-29, 32-35 T.16N R.64E Sec.2-5, 8, 9	39 18' 21" 114 46' 38"	691730 E, 4353065 N	Schell
White Rock	GWD1	T.03N R.70E Sec. 13, 23-24 T.03N R.71E Sec. 7-8, 17-19	38 05' 50" 114 05' 47"	756692 E, 4222910 N	Schell

1.1.3. Name and Location of Preparing Office:

BLM, Ely District Office- LLNVL0000

BLM, Ely District Office

HC33 Box 33500

702 N. Industrial Way

Ely, NV 89301

1.1.4. Identify the subject function code, lease, serial, or case file number:

1.1.5. Applicant Name:

N/A - BLM Initiated Project

1.2. Purpose and Need for Action:

The proposed action for this EA are the treatments designated in the Emergency Stabilization and Rehabilitation Plan for each fire. Most actions are intended to benefit threatened and endangered species, soil and water stabilization and the invasive species. Treatments include aerial seeding, drill and other ground seeding, seedling planting and caching, weed treatments and inventory, soil stabilization activities, fence repair and construction, emergency gather of horses, replacing of signs, guzzlers and minor damaged facilities and vegetation monitoring. The need for the proposed treatments is further illustrated in descriptions of the affected environment and environmental consequences of the proposed action and no action alternative.

The fires analyzed in this EA burned through numerous vegetative communities which vary in their respective sensitivity to fire and post-fire impacts. Based on knowledge of the fire areas and site visits the interdisciplinary teams produced the ESR plans and concluded that there is the potential for “unacceptable degradation to natural and cultural resources”. The teams recommended immediate action on these fires to ensure the timely protection of habitat. Additionally, the need for rehabilitation plan actions for wildlife habitat restoration was identified due to vegetation type conversions.

1.3. Scoping, Public Involvement and Issues:

Issues Identified:

During development of the ESR plans, the interdisciplinary teams identified the following resources that would be affected by the fires and the proposed ESR treatments.

- American Indian Government to Government Coordination
- Archaeological Resources, Historic Properties and Paleontology
- Fire Management
- Flooding
- Impacts to Existing Structures and Roads
- Invasive, noxious, and non-native species

- Livestock Grazing and the Management of grazing allotments during burned area recovery period
- Migratory Birds
- Recreation
- Riparian/Wetland areas
- Special Status and Threatened/Endangered Animals and Plants
- Vegetative Resources and Vegetation Type Conversion
- Visual Resource Management
- Wild Horses and Burros
- Wilderness
- Wildlife

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Chapter 2. Proposed Action and Alternatives

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2.1. Description of the Proposed Action:

The kinds of treatments allowed under the Emergency Stabilization Rehabilitation Program are coded according to the following list. Not all of the listed treatments are proposed by the ESR plans analyzed in this document.

Below is a list of fires analyzed in this document.

Table 2.1. LIST OF FIRES ANALYZED

FIRE NAME	FIRE NUMBER	ELY BLM ACRES BURNED*
Basin	G4K0	7,069
Del	G4UV	23,609
Egan	GZ9J	7,192
Gregerson	G3BL	7,310
Kane	G5M1	4,246
North Schell	GX6G	3,343
Pahroc	GT9F	4,123
Pinto	GZA5	2,880
Range	G0HM	3,755
White Rock	GWD1	4,017
TOTAL		67,544
* Note - The burned acres identified in this column are the acres burned within the BLM Ely District. These acres do not reflect acres burned on private land, USFS affected lands, or BLM affected lands in other districts or States.		

Table 2.2. ALLOWABLE ACTIONS THROUGH EMERGENCY STABILIZATION AND REHABILITATION PLAN FUNDING

ACTION/ SPEC#	PLANNED ACTION
S1/R1	Planning/Project Management
S2/R2	Ground Seeding
S3/R3	Aerial Seeding
S4/R4	Seedling Planting
S5/R5	Noxious Weeds
S6/R6	Soil Stabilization (other than seedling planting)
S7/R7	Fence/Gate/Cattle Guard
S8/R8	Road/Trail Water Diversion
S9/R9	Cultural Protection (Stabilization/Patrol)
S10/R10	Tree Hazard Removal
S11/R11	Facilities
S12/R12	Closures (Area, OHV, Livestock)
S13/R13	Monitoring
S14/R14	Other Treatments

Above is a list of identified proposed actions involving the emergency stabilization and rehabilitation of the affected fire areas. Not every proposed action would occur on every fire. Due to changes in funding, project partners and seed availability, total treated acres may be adjusted.

Any adjustments to the proposed action (up to the limits specified under individual treatment sections below) is considered an element of this proposed action overall.

Refer to Proposed Treatments (Tables 4 and 5) in this section for proposed emergency stabilization and rehabilitation treatments by fire area. Maps of the proposed treatments are located in Appendix I.

S2/R2: Ground Seeding

The proposed treatment is to drill seed up to 10,000 acres with a mixture of grass, forb and shrub seeds. Different seed mixes would be used to meet resource objectives and protect ESR treatments. Drill seeding would occur in the fall of 2012 (FY2013), preferably before the winter wet season. Separate drill seed mixes are proposed including a native seed mix and a native/non-native seed mix as appropriate for each area.

Seed in identified drilling areas would be incorporated into the soil using rangeland drills, seed boxes and dribblers. The proposed seeded areas would be assessed for archaeological resources in accordance with the requirements of the State Protocol Agreement between the BLM and the State Historic Preservation Office (SHPO).

The ground seeding treatment would add a source of desirable species to the burned area. These perennials would provide competition with the invasive annuals, hindering their establishment and dominance post-fire. The application of seed using a rangeland drill would be subject to available funding.

S3/R3: Aerial Seeding

The proposed action is to aerial seed up to 100,000 acres of burned area with a mixture of grasses, forbs and shrubs. Aerial seeding may be followed by chaining, harrowing, mulching or other activities to cover seed. Seed mixtures vary by each fire and within areas of individual fires based on applicability of the species to the site. Seed mixtures in designated wilderness are comprised of only native species in conformance with applicable plans and guidelines. In high value wildlife habitat, species appropriate and beneficial to specific species are prioritized.

A list of proposed seed species and acceptable proposed alternates is located in tables 6–15 of this document. The actual seed species applied may vary by individual fire based on availability of seed and funding.

S4/R4 Seedling Planting

Seedling planting or caching of shrubs is proposed on up to 2,500 acres, in areas of high value where shrubs were a vital pre-fire component and are unlikely to reestablish in an acceptable frame of time. Seed planting involves growing out desirable shrub species in nurseries and planting them into burned areas. Caching involves digging small holes (approximately 2 inches, usually using planting bars), placing 3–5 seeds in each hole, and refilling the hole with soil.

S5/R5: Noxious Weed Treatments

There are multiple proposed actions within the Noxious Weed Treatment Specification including survey, broadcast herbicide application, and spot treatments of herbicides.

The first proposed action is to survey and monitor burned and surrounding areas for newly establishing noxious weed populations. Identified populations will be mapped using Ely District

Office weed mapping protocols. These data will be immediately provided to the ESR Coordinator and Noxious Weed Coordinator so that treatments and plan amendments may be proposed. If noxious weed populations are discovered, appropriate treatments will be addressed through an amendment to the ESR plans.

The second proposed action within the Noxious Weed Treatment Specification is to apply BLM approved herbicide on up to 30,000 acres of burned areas, as well as immediately adjacent areas that present a threat and source of invasive species to the burned area. Herbicide may be applied by ground or aerial application in accordance with all applicable State, BLM and specific herbicide label regulations. The most common application of herbicide is Imazapic, a selective herbicide intended to manage non-native annual grasses that tend to carry fire, limit the establishment of desirable species and render affected areas non-functional.

The third proposed action within the Noxious Weed Treatment Specification is to apply spot treatments of herbicide on existing noxious weed populations within the burn areas. Herbicides will be limited to those approved for use on BLM lands and will follow all applicable State, Federal, and specific herbicide label regulations.

Responsibility for monitoring and treatment of noxious weed species will be returned to the base program when emergency stabilization and rehabilitation programs release management of these burned areas following the third year post-fire.

S6: Soil Stabilization

Soil stabilization treatments are intended to reduce erosion from slopes where vegetation has been stripped during a wildfire. Treatments include mulch, log erosion barriers, wattles, erosion control blankets, and other soil barriers. Up to 3,000 acres of burned area is proposed for soil stabilization projects. Areas for slope stabilization will be inventoried to Class III standards where required per order of the protocol agreement between the Ely BLM/FO and the Nevada SHPO (Appendix F., Section J.).

S7/R7: Fence/Cattle Guard

Treatments proposed under the S7/R7 specification include new temporary fence construction, fence repair, construction of a new management and exclosure fences, and installation of cattle guards. All fences and cattle guards will be installed in conformance with BLM Manual 1741-1 Section II. B. 9 to meet wildlife and other applicable standards. Under this specification, up to 75 miles of fence may be constructed to protect burned areas and associated treatments. For newly constructed fences in areas containing wild horses and Greater Sage-grouse, flagging would be installed on fences to improve visibility. Temporary installations will be removed after the three year window of Emergency Stabilization and Rehabilitation treatment has expired. The fence repairs are necessary to maintain normal grazing operations and to protect the emergency stabilization and rehabilitation treatment areas. The fence lines proposed for construction, the burned existing fences proposed for repair, and the cattle guards will be assessed for archaeological resources in accordance with the requirements of the State Protocol Agreement between the BLM and the SHPO.

S11/R11 Facilities

The repair or replacement of minor improvements and facilities [e.g., kiosks, fences, exclosures, small water pipelines, interpretive or boundary signs, recreation facilities...water control

structures, corrals, guzzlers, trails, etc.] burned or damaged by fire to pre-fire specifications is authorized with the use of ES&R funds.(BLM Manual H-1742–1, Section B. 8). Under this treatment, the minor facilities listed above would be repaired or replaced. Signs may also be placed in the vicinity of the burned area warning the public of possible increased danger of flooding and soil movement, and encouraging travel only on existing roads to support site rehabilitation.

S12/R12 Livestock Closure

The proposed treatment is to close all burned areas to livestock grazing on the affected allotments until vegetation recovery objectives have been met. Closure would be by agreement or by decision and would be issued to the permittee as early after the fire occurrence as possible. Table 19 of this document lists the affected allotments by fire.

S13/R13 Monitoring

Vegetation treatment effectiveness will be monitored using methods adapted from the Monitoring Manual for Grassland, Shrubland and Savanna Ecosystems (Herrick, Zee, Havstad, Burkett and Whitford. 2005). Key areas will be stratified based on soil, landscape, vegetation, treatment and management considerations. Effectiveness will be monitored similarly within each fire area. Each fire area will contain set(s) of demonstration plots. Each set of plots will consist of a burned treated key area, and a burned, untreated key area, called the control. Additional key areas in the treated area will be established in each fire to obtain more complete coverage of the effectiveness of treatments within the burned area.

Each key area will consist of 3, 50m belt transects in a spoke design with transect azimuths at 0º, 120º and 240º. Transects will begin 5m from the center of the key area. The center of the key area and the start point of each transect will be permanently monumented with rebar. Photo points will be taken at the beginning of each belt transect. Line-point intercept will be used to determine foliar cover, bare ground cover and basal cover. On each transect, line-point intercept measurements will be taken using pin flags dropped from a height of 1.5m at 1m intervals along each belt transect for a total of 50 points per transect. On each transect, density will be measured with 0.5m2 density frames placed at 5m, 15m, 25m,35m, and 45m. On each transect, canopy gap intercept will be used to determine the proportion of line covered by large gaps between plant canopies. Any canopy gap of more than 20cm will be recorded. On each transect, basal gap intercept will be used to determine the proportion of line covered by large gaps between plant bases. Any basal gap of more than 20cm will be recorded. Soil stability tests will be preformed at each site to test soil structural development and erosion resistance. Soil stability will be tested with 6 points placed at 8m intervals along each transect.

Crews that collect data within the burned area will also look for noxious weeds, sign of wild horse utilization, evidence of livestock use, and other phenomena worth noting. The crews will be given cultural sensitivity training so they can complete observation reports for any sighting of cultural resources.

On each fire, weather station(s), including a tipping bucket rain gauge and various soil and climate sensors interfaced with a data logger, will be set up in the burned area to record precipitation, soil and climate data. In addition, one or two sets of soil moisture and temperature sensors interfaced with data loggers will be placed in each of the vegetation treatments to record variability in soil moisture and temperature across the site and/or between treatments. Data will be used

to analyze correlations between the timing, rate and duration of rain events and signs of soil erosion/sedimentation, vegetation recovery and signs of increased invasive species establishment. Given sparse weather station coverage in the Ely District, these correlations are not currently possible and are considered invaluable in making better informed treatment recommendations.

S14/R14 Additional Treatments

The White Rock Fire took place in the Eagle Herd Management Area (HMA), and a population of horses has been observed in the burned area and has been assessed as a potential issue for vegetation recovery. The ESR Handbook states, "Exclusion of wild horses may be critical for the recovery of burned vegetation or establishment and maintenance of new seedings...exclusion or relocation must occur before the animals significantly damage the recovery of seeded or recovering vegetation. Emergency stabilization funds may be used for gathering and temporary holding which includes transporting, processing and sorting the animals at a BLM facility"(BLM Manual H-1742–1, Section B. 41). A total of 60 horses are proposed for emergency gather to minimize the negative impacts of grazing on the emergency stabilization and rehabilitation projects in the area, as well as to give the burned areas adequate rest to allow naturally regenerating species to become established. The approval of this Environmental Assessment and subsequent Decision Record and Finding of No Significant Impact (DR/FONSI) would not provide for approval of horse removals. A separate environmental assessment document would analyze the site specific impacts of any removal proposals. If funding and holding facility space is available, an EA would be prepared by Ely BLM staff.

Below is a list of proposed emergency stabilization treatments by fire:

Below is a list of rehabilitation treatments by fire.

Table 2.3. PROPOSED EMERGENCY STABILIZATION TREATMENTS

FIRE NAME	BASIN	DEL	EGAN	GREGERSON	KANE	N. SCHELL	PAHROC	PINTO	RANGE	WHITE ROCK	TOTAL
Fire Number	G4K0	G4UV	GZ9J	G3BL	G5M1	GX6G	GT9F	GZA5	G0HM	GWD1	
S2 Drill Seeding (Acres)						2,031			1535		3,566
S3 Aerial Seeding (Acres)			4,101			2,031		1,139	1715	950	9,936
S3 Aerial Seeding/ Mulching (Acres)						308					308
S3 Aerial Seeding/ Chaining (Acres)								1,291		1,500	2,791
S5 Weed/Spot Treatmt (Acres)								1			1
S5 Weed/Survey (Acres)			7,192			3,343		2,612	3755		16,902
S6 Soil Stabilization Erosion Structures (Acres)								1		350	351

S7 New Temp Fence (Miles)			1			3					4
S7 Fence Repair (Miles)			11.5			1.5		5			18.0
S7 Cattle Guard (Each)			1								1
S11 Facilities Warning Signs (Each)										5	5
S12 Livestock Closure (Each)			2			2		1	2	1	8
S13 Monitoring (Acres)			7,192			3,343		2,612	3755	2,351	19,253
S14 Wild Horse Gather (#)										60	60

Table 2.4. PROPOSED BURNED AREA REHABILITATION TREATMENTS

FIRE NAME	BAS-IN	DEL	EGA-N	GREGER-SON	KA-NE	NOR-TH SCH-ELL	PAH-ROC	PINT-O	RAN-GE	WH-ITE ROCK	TO-TAL
Fire Number	G4K0	G4UV	GZ9J	G3BL	G5M1	GX6G	GT9F	GZA-5	G0HM	GWD1	
R2 Drill Seeding (Acres)							550				550
R3 Aerial Seeding (Acres)	2000	4,950	3,424	3,500	2,962		1,250			1,175	11,349
R4 Seedling Planting - Seed Caching (Acres)			250					280	200		730
R5 Weed Treatment Herbicide (Acres)	100	100		3,500	100	1,800	2,000		1500	124	9,024
R5 Weed Treatment Herbicide Spot Treatment (Acres)				1						1	2
R5 Weed Treatment Survey (Acres)	7069	23,609	7,192	7,310	4,246	3,343	4,123	2,612		2,351	34,000
R6 Soil Stabilization Mulch (Acres)									600		600
R7 New Temporary Fence (Miles)							1				1
R7 Fence Repair/ Replacement (Miles)				1.5			0.5				2.0
R7 Fence Exclosure (Acres)				40							40
R11 Facilities (Each)	5	1	16		1			5	5		31

R12 Livestock Closure (Each)	2	1		1	1		2				5
R13 Monitoring (Acres)	7069	23,609	7,192	7,310	4,246	3,343	4,123	2,612	3755	2,351	67,544

Below are lists of seed species by fire.

Table 2.5. BASIN FIRE PROPOSED SEED SPECIES

PROPOSED NATIVE PLANTS	PROPOSED NON-NATIVE PLANTS
Great Basin Wildrye, Tetra (Leymus cinereus)	
Indian Ricegrass (Achnatherum hymenoides)	
Lewis Flax (Linum lewisii)	
Sand Dropseed (Sporobolus cryptandrus)	
Sideoats Grama Grass (Bouteloua curtipendula)	
Thickspike Wheatgrass, Critana (Elymus lanceolatus)	

Table 2.6. DEL FIRE PROPOSED SEED SPECIES

PROPOSED NATIVE PLANTS	PROPOSED NON-NATIVE PLANTS*
Thickspike Wheatgrass, Critana (Elymus lanceolatus)	Forage Kochia (Bassia prostrata)
Sandberg Bluegrass (Poa secunda)	Crested Wheatgrass, Hycrest (Agropyron cristatum)
Galetta Grass, Viva (Pleuraphis jamesii)	Siberian Wheatgrass, Vavilov II (Agropyron fragile)
Sand Dropseed (Sporobolus cryptandrus)	Small Burnet, Delar (Sanguisorba minor)
Sideoats Grama Grass, Niner or Vaughn (Bouteloua curtipendula)	
Lewis Flax, Maple Grove (Linum lewisii)	
Desert Bitterbrush (Purshia glandulosa)	
Indian Ricegrass, Paloma (Achnatherum hymenoides)	

*Non-Wilderness portions of the fire only.

Table 2.7. EGAN FIRE PROPOSED SEED SPECIES

PROPOSED NATIVE PLANTS	PROPOSED NON-NATIVE PLANTS
Bluebunch Wheatgrass (Pseudoroegneria spicata)	Blue Flax, Appar (Linum perenne)
Thickspike Wheatgrass, Critana (Elymus lanceolatus)	
Slender Wheatgrass, San Luis (Elymus trachycaulus)	
Basin Wildrye, Magnar (Leymus cinereus)	
Sandberg Bluegrass (Poa secunda)	
Bottlebrush Squirreltail (Elymus elymoides)	
Indian Ricegrass, Nezpar (Achnatherum hymenoides)	
Western Yarrow, White (Achillea millefolium var. occidentalis)	
Palmer's Penstemon (Penstemon Palmerii)	
Lewis Flax, Maple Grove (Linum lewisii)	
Arrowleaf Balsamroot (Balsamorhiza sagittata)	
Mountain Big Sagebrush (Artemisia tridentata vaseyana)	
Antelope Bitterbrush (Purshia Tridentata)	

Common Snowberry (Symphoricarpos albus)	
Utah Serviceberry (Amelanchier utahensis)	

Table 2.8. GREGERSON FIRE PROPOSED SEED SPECIES

PROPOSED NATIVE PLANTS	PROPOSED NON-NATIVE PLANTS
Thickspike Wheatgrass, Critana (Elymus lanceolatus)	Siberian Wheatgrass, Vavilov II (Agropyron fragile)
Indian Ricegrass (Achnatherum hymenoides)	
Sand Dropseed (Sporobolus cryptandrus)	
Western Yarrow, White (Achillea millefolium var. occidentalis)	

Table 2.9. KANE FIRE PROPOSED SEED SPECIES

PROPOSED NATIVE PLANTS	PROPOSED NON-NATIVE PLANTS
Sand Dropseed (Sporobolus cryptandrus)	
Galetta Grass, Viva (Pleuraphis jamesii)	
Sideoats Grama Grass, Niner or Vaughn (Bouteloua curtipendula)	
Desert Globemallow (Sphaeral ambigua)	
Desert Marigold (Baileya multiradiata)	
Desert Pepperweed (Lepidium fremontii)	
Winterfat (Krascheninnikovia lanata)	
White Bursage (Ambrosia dumosa)	
Mojave Buckwheat (Eriogonum fasciculatum)	
Indian Ricegrass, Paloma (Achnatherum hymenoides)	
Virgin River Brittlebush (Encelia virginensis)	
Brittlebush (Encelia farinosa)	
Bottlebrush Squirereltail, Tusas (Elymus elymoides)	
Sand Dropseed, Western (Sporobolus cryptandrus)	
Purple Threeawn (Aristida purpurea)	
Fourwing Saltbush (Atriplex canescens)	
Desert Bitterbrush (Purshia glandulosa)	

Table 2.10. NORTH SCHELL FIRE PROPOSED SEED SPECIES

PROPOSED NATIVE PLANTS	PROPOSED NON-NATIVE PLANTS
Black Sagebrush (Artemisia nova)	Blue Flax, Appar (Linum perenne)
Bluebunch Wheatgrass, Anatone (Pseudoroegneria spicata)	Sanfoin, Eski (Onobrychis viciifolia)
Bottlebrush Squirreltail (Elymus elymoides)	Siberian Wheatgrass, Vavilov II (Agropyron fragile)
Galleta Grass, Viva (Pleuraphis jamesii)	
Gooseberryleaf Globemallow (Sphaeraclea grossulariifolia)	
Indian Ricegrass, Nezpar (Achnatherum hymenoides)	
Mountain Big Sagebrush (Artemisia tridentata vaseyana)	
Needle and Threadgrass (Hesperostipa comata)	
Palmer's Penstemon (Penstemon Palmerii)	
Rocky Mountain Beeplant (Cleome serrulata)	
Sandberg Bluegrass (Poa secunda)	

Streambank Wheatgrass, Sodar (Elymus lanceolatus)	
Wyoming Big Sagebrush (Artemisia tridentata wyomingensis)	

Table 2.11. PAHROC FIRE PROPOSED SEED SPECIES

PROPOSED NATIVE PLANTS	PROPOSED NON-NATIVE PLANTS
Blue Gramma Grass (Bouteloua gracilis)	Blue Flax, Appar (Linum perenne)
Bottlebrush Squirreltail (Elymus elymoides)	Siberian Wheatgrass, Vavilov (Agropyron fragile)
Galleta Grass, Viva (Pleuraphis jamesii)	Small Burnet, Delar (Sanguisorba minor)
Indian Ricegrass, Paloma (Achnatherum hymenoides)	
Needle and Threadgrass (Hesperostipa comata)	
Sand Dropseed (Sporobolus cryptandrus)	
Sandberg Bluegrass (Poa secunda)	

Table 2.12. PINTO FIRE PROPOSED SEED SPECIES

PROPOSED NATIVE PLANTS	PROPOSED NON-NATIVE PLANTS
Annual Sunflower (Helianthus annus)	Blue Flax, Appar (Linum perenne)
Arrowleaf Baslamroot (Balsamorihiza sagittata)	Russian Wildrye, Bozoisky II (Psathyrostachys juncea)
Bluebunch Wheatgrass (Pseudoroegneria spicata)	Siberian Wheatgrass, Vavilov II (Agropyron fragile)
Gooseberryleaf Globemallow (Sphaeraclea grossulariifolia)	
Great Basin Wildrye, Tetra (Leymus cinereus)	
Indian Ricegrass, Nezpar (Achnatherum hymenoides)	
Mountain Big Sagebrush (Artemisia tridentata vaseyana)	
Rocky Mountain Beeplant (Cleome serrulata)	
Silvery Lupine (Lupinus argenteus)	
Streambank Wheatgrass, Sodar (Elymus lanceolatus)	
Suphur buckwheat (Eriogonum umbellatum)	
Thickspike Wheatgrass, Bannock (Elymus lanceolatus)	
Antelope Bitterbrush (Purshia Tridentata)	

Table 2.13. RANGE FIRE PROPOSED SEED SPECIES

PROPOSED NATIVE PLANTS	PROPOSED NON-NATIVE PLANTS
Annual Sunflower (Helianthus annuus)	Blue Flax, Appar (Linum perenne)
Antelope Bitterbrush (Purshia tridentata)	Small Burnet, Delar (Sanguisorba minor)
Arrowleaf Baslamroot (Balsamorihiza sagittata)	
Black Sagebrush (Artemisia nova)	
Bluebunch Wheatgrass (Pseudoroegneria spicata)	
Bottlebrush Squirreltail (Elymus elymoides)	
Indian Ricegrass, Nezpar (Achnatherum hymenoides)	
Mountain Big Sagebrush (Artemisia tridentata vaseyana)	
Needle and Threadgrass (Hesperostipa comata)	
Rocky Mountain Beeplant (Cleome serrulata)	
Sandberg Bluegrass (Poa secunda)	
Streambank Wheatgrass, Sodar (Elymus lanceolatus)	

Western Yarrow, White (Achillea millefolium var. occidentalis)	
Wyoming Big Sagebrush (Artemisia tridentata wyomingensis)	

Table 2.14. WHITE ROCK FIRE PROPOSED SEED SPECIES

PROPOSED NATIVE PLANTS	PROPOSED NON-NATIVE PLANTS
Indian Ricegrass, Nezpar (Achnatherum hymenoides)	Blue Flax, Appar (Linum perenne)
Lewis Flax, Maple Grove (Linum lewisii)	
Palmer's Penstemon (Penstemon Palmerii)	
Showy Goldeneye (Heliomeris multiflora var. brevifolia)	
Slender Wheatgrass, San Luis (Elymus trachycaulus)	
Thickspike Wheatgrass, Critana (Elymus lanceolatus)	
Western Wheatgrass, Rosana (Pascopyrum smithii)	
Western Yarrow, White (Achillea millefolium var. occidentalis)	
Wyoming Big Sagebrush (Artemisia tridentata wyomingensis)	
Smallflower Globemallow (Sphaeralcea parvifolia)	

2.2. Description of Alternatives Analyzed in Detail:

Under the NEPA required alternative of No Action, the BLM would not implement any of the proposed Emergency Stabilization and Rehabilitation actions on the fires. No re-vegetation or soil stabilization activities such as ground seeding, aerial seeding, mulching, log erosion barriers, or seed caching would occur. No wild horse gathers would be scheduled. No protection fences would be installed or repaired, no cattle guards would be installed, and no livestock closures would be implemented. Noxious and invasive plants would not be inventoried or controlled by herbicide. No signs would be installed to inform the public of the wilderness boundary areas, or to inform the public of the rehabilitation actions in progress. Rather, vegetation would regenerate without any facilitation.

2.3. Alternatives Considered but not Analyzed in Detail

Alternatives for type and area of proposed treatments were analyzed in the formation of Emergency Stabilization and Rehabilitation plans and no additional alternatives were considered in the EA process.

2.4. Conformance

The EA is in conformance with the Ely Resource Management Plan (Approved August 2008).

The proposed action is consistent with Federal, State, and local laws, regulations, policies, and plans to the maximum extent possible.

Within each of the ESR plans, the proposed actions have been examined for conformance with the relevant BLM land use plan and in all cases were found to be in compliance with the plan.

The proposed action has been analyzed within the scope of other relevant plans, statutes, regulations, executive orders, and manuals listed below and found to be in compliance:

- Revised recovery plan for the Mojave population of the desert tortoise (*Gopherus agassizii*) (2011), FWS.
- Washington Office Instruction Memorandum No. 2012–043 "Greater Sage-Grouse Interim Management Policies and Procedures" and 2012–044 "BLM National Greater Sage-Grouse Land Use Planning Strategy" and Nevada State Office Instruction Memorandum No. IM-NV-2012–058, "Revised Direction for Proposed Activities within Greater Sage-Grouse Habitat"
- State Protocol Agreement between the Bureau of Land Management, Nevada and the Nevada State Historic Preservation Office (2011)
- Mojave-Southern Great Basin Resource Advisory Council (RAC) Standards and Guidelines (12 February 1997).
- Northeastern Great Basin Resource Advisory Council (RAC) Standards and Guidelines.
- Memorandum of Understanding between the BLM and FWS To Promote the Conservation of Migratory Birds (2010)
- Lincoln County Elk Management Plan – Revised 2006
- White Pine County Elk Management Plan – 1999
- 1973 Endangered Species Act
- 1964 Wilderness Act
- Migratory Bird Treaty Act (1918 as amended) and Executive Order (1/11/01).
- BLM Manual 8560, H-8560-1, 8561 (Wilderness Management)
- Delamar Mountains, Meadow Valley Range and Mormon Mountains Final Wilderness Management Plan and Environmental Assessment (December 2009)
- Fortification Range, Parsnip Peak, White Rock Range Final Wilderness Management Plan and Environmental Assessment (January 2009)
- BLM Manual 8400 - Visual Resources Management
- Department of the Interior BLM Emergency Stabilization and Burned Area Rehabilitation Handbook H-1742-1
- 620 DM 3 Wildland Fire Management Burned Area Emergency Stabilization and Rehabilitation. Release 3610. 5/20/04
- The Lincoln County Public Lands Policy Plan (2010)
- White Pine County Land Use Plan (May 1998)
- Ely District Integrated Weed Management Plan (July 2010)

- Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (September 2007)

Chapter 3. Affected Environment:

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Table 3.1. Resources Dismissed from Further Analysis

Resource/ Concern	Rationale for dismissal of detailed analysis
Air Quality	Rehabilitation treatments are not anticipated to affect air quality.
Water Quality, Drinking/ Ground	Project design features, buffer zones, topography, vegetation and other natural ecosystem components act to preclude sediments or chemicals from entering waterways. The natural buffering capability of the hillsides and vegetation surrounding the intermittent and perennial streams with the added design feature buffers placed upon these same systems combine to maintain water quality. The application of potential treatments upon the landscape would not affect the water quality in the watershed.
Water Resources	Design features of the proposed action and alternatives, including buffering drainages and riparian areas during treatments, would prevent potential impacts to water resources. No water rights will be affected by the proposed action. No adverse effects to water resources or water rights are expected.
Soil Resources	Soil resources may have been adversely affected by fire, but design features of the proposed action and alternatives would prevent potential impacts to soil resources.
Farmlands, Prime and Unique	There are no Unique Farmlands in the state of Nevada. While lands exist within the treatment area that could be classified as Prime Farmland, these lands are under federal administration and water sources do not exist to irrigate them. There is no provision in the Ely District RMP to convert lands in this area to private ownership; therefore as the lands will not be farmed, this classification does not apply.
Wetlands/ Riparian	No wetlands have been mapped for the analysis area. Project design features and buffer areas are incorporated to mitigate affects on riparian areas.
Renewable Energy	No renewable energy resources would be affected by the proposed action.
Transportation/ Access	The proposed action may have minor, short-term impacts on public access. While helicopter seeding and spraying operations are active, some roads may be temporarily inaccessible for public and aircraft safety. The proposed action will not have adverse effects on transportation or access.
Vegetative Resources (Forest or Seed Products)	Vegetative resources may have been adversely affected by fire, but design features of the proposed action and alternatives would prevent potential impacts to soil resources.
Mineral Resources	Project design features and buffer zones are included to mitigate impacts to mineral resources.
Floodplains	No floodplains have been mapped in the analysis area.
Fire Management	The proposed action is designed to mitigate impacts to fire management and does not require additional analysis..
Areas of Critical Environmental Concern (ACEC)	Project design features and buffer zones are included to protect ACECs and mitigate impacts.
Wild and Scenic Rivers	There are no wild and scenic rivers in the treatment area
Human Health and Safety	All applicable safety requirements and regulations would be incorporated into the design of each treatment prior to implementation. Appropriate design features have been incorporated into the proposed action to minimize exposure and risk to human health and safety. Risk Management Worksheets will be completed prior to any treatments being applied.
Wastes, Hazardous or Solid	No known hazardous or solid wastes exist within the treatment area. Any spills or discoveries of hazardous or solid wastes would be reported immediately to the approving official. Any such situations would be addressed swiftly and by following appropriate rules, regulations and protocols.
Environmental Justice	There are no known disadvantaged populations that would be adversely impacted by the project.
Native American Religious and other Concerns	There are no Native American traditional religious sites or cultural sites of importance within the proposed project area that would be affected as a result of this project. There are no 'Indian Trust Assets' identified within the Ely District Office.

A. Vegetative Resources

A variety of vegetation types occur within the fire-affected areas which occur throughout the Ely District. Communities include sagebrush shrub lands, pinyon-juniper woodlands, Mojave mid-elevation desert scrub (blackbrush, Joshua tree), creosote bush-white bursage, warm desert washes, Great Basin mixed shrub lands, Mojave mixed shrub lands, salt desert shrub, interior chaparral, and riparian areas at spring sources. At higher elevations, ponderosa pine and fir woodlands are present in the affected environment. All of these vegetation communities respond differently to the effects of fire.

Sagebrush Shrub Lands

In portions of some of the more northern fires (i.e. Egan, North Schell, Pinto, Range, and White Rock), affected plant communities were dominated by Wyoming sagebrush, and black sagebrush (*Artemisia spp.*) and mountain sagebrush (*Artemisia vaseyana*). Other dominant shrubs present include antelope bitterbrush (*Purshia tridentata*), rubber rabbitbrush (*Ericameria nauseosis*), black greasewood (*Sarcobatus vermiculatus*), and small rabbitbrush (*Chrysothamnus viscidiflorus*) and assorted perennial grasses which may include Indian ricegrass (*Achnatherum hymenoides*), needleandthread (*Hesperostipa comata*), blue grama (*Bouteloua gracilis*), squirreltail (*Elymus elemoides*), western wheatgrass (*Pascopyrum smithii*), and others.

The invasive, introduced annual grass, cheatgrass (*Bromus tectorum*), is present in varying densities in the district. Where cheatgrass was present in small quantities or largely absent, native perennial grasses and forbs are expected to readily re-sprout or germinate. The more dominant grasses include Indian ricegrass (*Achnatherum hymenoides*), needle-and-thread (*Hesperostipa comata*), western wheatgrass (*Pascopyrum smithii*) and bluegrass (*Poa spp*.). An assortment of forbs would normally be present including lupine (*Lupinus spp*.) and globemallow (*Sphaeralcea spp*).

Pinyon-Juniper (P-J) Woodlands

At higher elevations, woodlands were dominated by Pinyon pine (*Pinus monophylla*) and Utah juniper (*Juniperus osteosperma*). Neither pinyon nor juniper trees are fire-tolerant and readily die after moderate to severe fires. These sites do reseed readily, sometimes reoccupying a burned site within 25 years. The P-J woodlands burned in both the south and north portions of the Ely district, on both steep and moderate slopes. The understory vegetation of shrubs, grasses, and forbs varied by fire in the P-J woodlands. Where the canopy cover of trees was thick, understory vegetation was generally limited and fires burned hot and intensely, especially on steeper slopes.

Mojave Mid-elevation Desert Scrub

At elevations above creosote/white bursage communities, a variety of shrubs become dominant. In the burned areas, these communities were often dominated by blackbrush (*Coleogyne ramosissima*). Other common shrubs include Mojave yucca (*Yucca schidigera*), banana yucca (*Yucca baccata*), Joshua tree (*Yucca brevifolia*), Nevada ephedra (*Ephedra nevadensis*), rabbitbrush (*Ericameria nauseosis*) and indigobush (*Psorothamnus polydenius*). Grasses and forbs were a relatively minor component of blackbrush communities. In most areas, blackbrush formed extensive, nearly monotypic stands. Where fire burned through blackbrush communities, essentially all of the existing blackbrush was removed. Blackbrush, while extremely flammable, is not resilient to fire and individual plants are usually killed by even low severity fires. Studies indicate that blackbrush can take upwards of 60 years to reestablish (Anderson 2001) and possibly 1,000 years to be fully restored (Web et al. 2001). Other studies suggest that these sites are

converted to other vegetation types and do not return as blackbrush sites (Callison et al. 1985: Haines et al. 2003).

Warm Desert Wash Vegetation

Areas where water flows during high runoff events consist of communities of species that tend to re-sprout following fire. Common shrubs and small trees of warm desert washes include desert peach (*Prunus fasciculata*), desert willow (*Chilopsis linearis* ssp. *arcuata*), turbinella oak (*Quercus turbinella*), Anderson's wolfberry (*Lycium andersonii*) and oakbrush sumac (*Rhus trilobata*).

Riparian Vegetation

Riparian vegetation dominates near springs, seeps, ephemeral creeks, and where water flows permanently. Riparian plant communities can vary in complexity and composition from the presence of two or three dominant species to many species depending on location and disturbance history. Typical dominant native species in riparian communities vary greatly across the fires addressed in this document, but may include willow (*Salix spp*.), cottonwood (*Populus fremontii*), wild rose (*Rosa spp*.), chokecherry (*Prunus virginiana*), and assorted perennial grasses and sedges including basin wildrye (*Elymus cinereus*) and *Carex spp*. Post-fire observation of two spring areas in the Peers fire (C1LZ) showed re-sprouting of dominant native species within two weeks after fire containment, due to the presence of hydric soils combined with rainfall. Typically, some riparian "islands" of vegetation remain unburned within the larger fires.

Creosote Bush/White Bursage Desert Scrub

Small areas of creosote dominated scrubland were affected by fires in the southern portion of Lincoln County. The areas are co-dominated by the shrubs creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). In some areas, big galleta (*Pleuraphis rigida*) is common in the understory. Creosote and white bursage generally are not adapted to fire. Recruitment of these dominants as well as associated four-wing saltbush (*Atriplex canescens*), brittlebush (*Encelia farinosa*), and three-awn grasses (*Aristida purpurea*) is generally by seed preserved in the seed bank.

Interior Chaparral

At higher elevations, above and intermingled with the P-J woodlands, fire-adapted shrub communities exist. Where communities similar to chaparral are found in the Intermountain West, they are often referred to as "interior chaparral". Common species of this vegetation type include manzanita (*Arctostaphylos patula*), turbinella oak (*Quercus turbinella*), Gambel's oak (*Quercus gambelii*), desert bitterbrush (*Purshia glandulosa*), cliffrose (*Purshia mexicana var. stansburyana*) and yerba santa (*Eriodictyon spp*.). All of these common species vigorously resprout following wildfire.

Salt Desert Shrub

Often these areas are dominated by alkali tolerant species but the sites range in location from the dry lake beds to mid-slope. Vegetation is characterized by four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), ephedra (*Ephedra* spp.), winterfat (*Krasheninnikovia lanata*), ricegrass (*Achnatherum hymenoides*), green molly (*Kochia americana*), and small galleta (*Pleuraphis jamesii*). These sites are not adapted to fire though

some species resprout following fire disturbance. They are highly susceptible to post-fire domination by invasive annuals, namely cheatgrass.

B. Watershed Resources: Soil and Water

Numerous soil associations are found in the areas burned by the fires and are described in the individual ESR plans. In their normal conditions, under some kind of natural vegetative cover, the soils would exhibit naturally varying erosion and water yield characteristics. With the removal of vegetative cover, the risk of soil erosion and water yield is increased, risking the loss or reduction of site recovery potential and negative downstream effects such as increased flooding and sediment delivery. The soil conditions and protective cover varies widely throughout the planning area.

Some sites on the fires had very little native vegetative cover to begin with due to the fires' locations within previous burn scars (Basin, Del, Gregerson, Kane, and portions of the White Rock Fire). This is particularly apparent within the 597,096 acre burn scar of the 2005 Southern Nevada Complex that lies within the Ely District BLM. Predominantly non-native annual grasses growing in the burn scars fueled the fires..

Some riparian areas were affected by the fires. The Pinto Fire burned over Mike's Sping (an improved Spring). This spring serves as an important water source for wildlife in the area.

C. Wildlife and Migratory Birds

Wildlife and associated habitat potentially affected by the fires includes assorted mammals, reptiles, and birds. Habitat for large game animals including mule deer (*Odocoileus hemionus*), pronghorn antelope (*Antilocapra americana*), and elk (*Cervus canadensis*) occurs in many of the burned areas. Mule deer crucial summer habitat was lost to the Gregerson, Egan, White Rock, and Pinto fires and crucial winter habitat in the Range fire. Elk crucial summer habitat was lost in the White Rock, Range, and Egan fires. .Reptile species that generally reside in habitats similar to those in and around the burned area include but are not limited to: western whiptail lizard (*Cnemidophorus tigris*), leopard lizard (*Gambelia wislizenii*), side-blotched lizard (*Uta stansburiana*), collared lizard (*Crotaphytus bicinctores*), desert horned lizard (*Phrynosoma platyrhinos*), speckled rattlesnake (*Crotalus mitchellii*), Mojave green rattlesnake (*Crotalus scutulatus*), gopher snake (*Pituophis catenifer*), and common chuckwalla (*Sauromalus ater*). Mammals in the burned areas may include but are not limited to: kangaroo rat (*Dipodomys* sp.), white-tailed antelope squirrel (*Ammospermophilus leucuruss*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail rabbit (*Sylvilagus audubonii*), bobcat (*Lynx rufufs*), mountain lion (*Felis concolor*), kit fox (*Vulpes macrotis*), badger (*Taxidea taxus*), coyote (*Canis latrans*) and several bat species.

Non-migratory and migratory birds could occur in any of the burned areas, particularly from early spring through fall..

D. Special Status Animals and Plants

The BLM Nevada Sensitive Species list for the Ely District, which includes species listed as threatened or endangered under the Endangered Species Act, are listed in Appendix B. Emergency and Stabilization plans identified possible plant and animal species to consider for specific fires. Potential BLM sensitive species with habitat in and around the burned areas includes but is not limited to: Rocky Mountain and desert bighorn sheep (*Ovis candensis*), banded Gila monster (*Heloderma suspectum cinctum*), greater sage-grouse (*Centrocercus urophasianus*), western

burrowing owl (*Athene cunicularia hypugaea*), Ferruginous hawk (*Buteo regalis*), golden eagle (*Aquila chrysaetos*), California myotis (*Myotis californicus*), pallid bat (*Antrozous pallidus*), fringed myotis (*Myotis thysanodes*), as well as other sensitive bird species.

A large volume wildlife water development for desert bighorn sheep known as Delamar #6 (aka Judy) was burned by the Del fire.

The Pinto, Egan, Range, North Schell, and White Rock fires burned approximately 7,461 acres of preliminary priority habitat (PPH) and 638 acres of preliminary general habitat (PGH). Preliminary Primary Habitat is defined as "areas that have been identified as having the highest conservation value to maintaining sustainable Greater Sage-Grouse populations. These areas would include breeding, late brood-rearing, and winter concentration areas (IM No. 2012–044). Preliminary General Habitat "comprises areas of occupied seasonal or year-round habitat outside of priority habitat (IM No. 2012–044)." No leks were burned in 2012. According to IM # FA IM-2012-017, from 05/14/2012, "Conservation of sagebrush habitat is the Bureau of Land Management's (BLM) number one conservation commitment. The BLM's goal is to limit the damage from unwanted wildfires in sagebrush habitat by thorough planning before a fire, prompt action during a fire, and effective rehabilitation following a fire. Consequently, following the priority for firefighter and public safety, offices will place a high priority and take appropriate action to minimize the size and adverse effects of unwanted wildfires in sage-grouse habitat. In addition, offices will place a high priority on planning and implementing fuels treatments that will reduce the start and spread of wildfires in sage-grouse habitat."

Greater sage-grouse inhabit open sagebrush habitat from 4,000 to 10,000 feet elevation and are a sagebrush-obligate species that rely upon sagebrush for food, shelter, and nesting throughout most of the year. Nesting sites require adequate sagebrush cover, as well as a grass and forb understory. Typically hens choose nest sites in close proximity to brood rearing habitat that contains a high diversity and density of grasses and forbs. During winter, sage grouse feed almost exclusively on sagebrush leaves. The treatments proposed in ESR plans, and outlined in this document, are necessary to benefit sage grouse habitat by reintroducing native perennial grass, forb and shrub species to the site. IM #2012-043 Greater Sage-Grouse Interim Management Policies and Procedures states "In Emergency Stabilization and Burned Area Rehabilitation plans, prioritize re-vegetation projects to 1) maintain and enhance unburned intact sagebrush habitat when at risk from adjacent threats; 2) stabilize soils; 3) reestablish hydrologic function; 4) maintain and enhance biological integrity; 5) promote plant resiliency; 6) limit expansion or dominance or invasive species; and 7) reestablish native species."

No known recordings of BLM sensitive plant species occur within the burned areas.

D.2. Threatened and Endangered Species

The Del and Kane fires burned approximately 56 and 2,575 acres of habitat for the federally threatened Agassiz's desert tortoise (*Gopherus agassizii*), based on the Ely RMP definition of desert tortoise habitat as elevation of 4000 feet and below. According to BLM triangular transects, both of these areas contain very low densities of desert tortoise. Neither of these burned areas containing critical habitat for desert tortoise, therefore, recent density estimates have not been obtained for these areas. Access roads to the Gregerson and Basin fires (west and south of Delamar Dry Lake) cross through habitat for the desert tortoise as well.

E. Noxious Weeds and Invasive Plants

Several noxious weed species that occur within or near the fire areas were previously identified in the Ely District Office weed inventory. They include, but are not limited to: Scotch thistle, Whitetop, Canada thistle, salt cedar, Dalmatian toadflax, bull thistle, Russian knapweed, and musk thistle. Sahara Mustard (a recently listed Nevada Noxious Weed) is rapidly spreading from Clark County into the Lincoln County via major roadways such as Highway 93 to the south, Carp-Elgin Road, and Kane Springs Road.

Invasive, winter annual grasses such as cheatgrass and red brome (*Bromus spp.*) green up during winter and early spring, and pose a threat for additional large fires. They also spread rapidly and green up early to utilize resources, thereby out-competing native perennial species.

Individual weed risk assessments were completed for each fire area of each proposed action and are located in Appendix C.

F. Wilderness

The United States Congress established the National Wilderness Preservation System to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States. Wilderness designation is intended to preserve and protect certain lands in their natural state. Only Congress, with Presidential approval, may designate public lands as Wilderness. The Wilderness Act of 1964 identifies wilderness uses and prohibited activities. Although wilderness character is a complex idea and is not explicitly defined in the Wilderness Act, wilderness characteristics are commonly described as:

● **Untrammeled** ─ area is unhindered and free from modern human control or manipulation.

● **Natural** ─ area appears to have been primarily affected by the forces of nature.

● **Undeveloped** ─ area is essentially without permanent improvements or human occupation and retains its primeval character.

● **Outstanding opportunities for solitude or a primitive and unconfined type of recreation**─area provides outstanding opportunities for people to experience solitude or primeval and unrestricted recreation, including the values associated with physical and mental inspiration and challenge.

Supplemental values ─ complementary features of scientific, educational, scenic or historic values.

Five fires burned approximately 37,593 acres in four designated wilderness areas. The wilderness areas and the extent of the burned area within them are shown in Table 17. The Ely District Office Wilderness Interested Publics received notification of the proposed actions, and notification of this EA.

Table 3.2. WILDERNESS

WILDERNESS NAME	WILDERNESS ACRES	FIRE NAME	ACRES BURNED	PERCENT OF WILDERNESS BURNED
Delamar Mountains	111,328	Basin	6,699	24.97
		Del	21,104	
South Egan Range	67,216	Egan	5,366	7.98

Meadow Valley Range	123,508	Kane	4,246	3.44
White Rock Range	24,413	White Rock	178	0.73

Delamar Mountains Wilderness

Several deep, twisting canyons issue from the central portion of the wilderness and extend into the southern bajada. The eastern mountainous region is composed of hills, peaks, washes, and draws. Many of the canyon areas have spectacular cliffs. The higher peaks in the central and eastern portions are good destinations for camping and provide expansive views of the nearby mountains and valleys, including the Delamar dry lakebed. This area provides steep, rugged terrain for desert bighorn sheep and a variety of raptors. The long sloping hills around the western and southern periphery of the wilderness area provide critical habitat for the threatened desert tortoise. The Delamar Mountains Wilderness encompasses a portion of the Kane Springs Desert Tortoise Area of Critical Environmental Concern and Mormon Mesa desert tortoise critical habitat unit. Sensitive species likely to be found in the wilderness area include the white bearpoppy and banded Gila monster. The cultural resources for this area include over a dozen cultural sites such as lithic scatters, shelters, rock art, milling sites, and an obsidian quarry.

South Egan Range Wilderness

The South Egan Range Wilderness Area is a striking and rugged mountain spine running nearly the entire length of the White River Valley. Spectacular vistas give a sense of exhilaration as the landscape falls away dramatically to the valley floor, 4,000 feet below. Numerous riparian areas and pockets of quaking aspen serve to attract an abundant variety of wildlife species which include mule deer, elk, and a variety of upland game birds, such as sage grouse.

There are three routes (cherrystems) that provide access to the ridgeline toward the center of the wilderness area. The West Parker Spring route (not suitable for full-sized vehicles) leads to the ridge and provides views of Mt. Wheeler to the east and over a number of mountain ranges to the west. Several springs feed small, intermittent creeks throughout the wilderness.

Meadow Valley Range Wilderness

The Meadow Valley Range Wilderness is boomerang-shaped, measuring approximately ten miles east to west, and arching about 36 miles from north to south. It consists of three major landforms: the long ridgeline of the Meadow Valley Mountains, a large bajada beginning high on the main ridge sloping easterly towards Meadow Valley Wash, and finally Bunker Hills five miles from the southern section of the central bajada. Fossils in the limestone hills provide snapshots of life hundreds of millions of years ago, when these high inland mountains were merely sediments accumulating at the bottom of the sea. The mountains themselves give a bird's-eye view of nature's erosional forces at work. The various climates and elevations in the area provide important habitat for wildlife. The Meadow Valley Range also provides habitat for the Desert Tortoise.

White Rock Range Wilderness

The White Rock Wilderness is a rarely visited pristine mountain range with gently rolling foothills covered in sagebrush, pinyon pine and juniper, and scattered ponderosa pines. Numerous side canyons and drainages dissect the north-south trending range. A high, windswept plateau covered with aspens and pockets of white fir lies toward the northern end of the area and stretches toward White Rock Peak (9,146 feet). Numerous springs along with two high mountain lakes having intermittent water support grassy meadows and lush riparian vegetation important to the elk and

mule deer in the area. Colorful volcanic boulders and eroded volcanic ash and columnar peaks jut out over the trees. Wild horses also frequent the higher elevations.

G. Visual Resources (VRM)

Visual resource management (VRM) is a system for minimizing the visual impacts of surface disturbing activities and maintaining scenic values for the future.

Different levels of scenic values require different levels of management. All BLM managed lands have been inventoried for VRM classification. The inventory classification objectives are:

- Class I: to preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.
- Class II: To retain the existing character of the landscape. The level of change to the characteristic landscape should be low.
- Class III: To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate.
- Class IV: To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.

The acreage of burns by VRM Class is as follows:

Table 3.3. VISUAL RESOURCE MANAGAMENT CLASS AREAS BURNED

VRM CLASS	ACRES BURNED BY 2012 FIRES	NUMBER OF FIRES OR PORTIONS OF FIRES BY CLASS
I	37534	5
II	17503	5
III	8052	7
IV	2441	5

H. Cultural Resources, Historic Properties and Paleontology

Numerous cultural resources and historic properties are known to be near the fires analyzed in this EA. At this time, no stabilization needs have been identified as a result of the fires. Additional cultural resources and historic properties are expected to be found in many of the fires based on their topography, location and proximity to water. Cultural Resource Inventory Needs Assessment's (CRINA) have been initiated for each fire and are in the process of receiving approval from the State Historic Preservation Office.

I. Wild Horses and Burros

The White Rock Fire was the only fire analyzed in this Environmental Assessment that burned in a Wild Horse Herd Management Area (HMA). The White Rock Fire burned in the Eagle HMA. Wild horses may be gathered under the emergency stabilization plan, to be analyzed in a separate environmental assessment. The following table shows the acreage burned in the Eagle HMA:

Table 3.4. HERD MANAGEMENT AREAS (HMA'S)

HMA	ACRES	FIRE NAME	ACRES BURNED	PERCENT OF HMA BURNED
Eagle	660,735	White Rock	2,233	0.34

J. Rangelands and Livestock Grazing

A total of 14 grazing allotments were affected by the fires, as shown in the table below. Multiple permittees have grazing permits on these allotments. The allotments are grazed by both cattle and sheep. Allotment and permittee information is shown in Table 20. The *Percent of Allotment Burned Overall* column is provided but does not necessarily indicate the impacts to the permittees' operations. An allotment could have substantial burned acreage without a major impact on grazing or the inverse could occur if the burned acreage is in an area critical to the operation.

Table 3.5. GRAZING ALLOTMENTS AFFECTED

ALLOTMENT NAME	ALLOTMENT ACRES	FIRE NAME	ACRES BURNED	PERCENT OF ALLOTMENT BURNED OVERALL
Henrie Complex (Robert and Vivian Lewis)	169,145	Kane	4,231	2.50
Lower Lake East (Delamar Valley Cattle)	52,550	Del	369	0.70
Sheep Pass (Kevin and Wilma Whipple) (John Laverne Whipple)	38,896	Egan	6,140	15.79
Chimney Rock (Blue Diamond Oil Company)	29,481	Egan	1,050	3.56
Delamar (Delamar Valley Cattle)	242,501	Gregerson, Del, Basin	7,310 19,379 460	11.20
Muncy Creek (MC Ranch Co., LLC)	211,454	North Schell	2,557	1.21
Red Hills (Intermountain Ranches, LTD.)	36,552	North Schell	987	2.70
Pahroc (Steward Bros. CO)	138,188	Pahroc	3,924	2.84
Buckhorn (Delamar Valley Cattle)	80,664	Pahroc, Del, Basin	192 3,871 6,609	13.23
Newark (Warren W. Scoppettone) (Mark Damele) (The Little Paris Sheep Company, LLC) (Pete Goicoechea)	265,587	Pinto	2,612	0.98
West Schell Bench (Blue Diamond Oil Corporation)	50,280	Range	3,334	6.63
Gilford Meadows (A.R. Pescio and Sons)	5,608	Range	528	9.42
Wilson Creek Allotment: Summer Native and U-4 Use Areas (Frank Delmue) (Matt H. Bulloch) (Kenneth and Donna Lytle Living Trust) (Pat and Kena Gloeckner) (Pearson Bros.)	1,090,500	White Rock	4,017	0.37
Grapevine (Robert and Vivian Lewis)	34,160	Kane	15	0.04

K. Areas of Critical Environmental Concern (ACECs)

No ACECs were affected by the 2012 Fires.

L. Recreation

Recreation occurs within and around many of the 2012 Fires. Types of recreation include but are not limited to hunting, hiking, and OHV riding. Several of the fires have existing OHV race courses within or surrounding the burn perimeters. Three fires area also within or directly adjacent to Special Recreation Management Areas. Table 21 below summarizes the types of recreation affected by the 2012 Fires.

Table 3.6. RECREATION

FIRE NAME	FIRE NUMBER	TYPE OF RECREATION	CLUB
Basin	G4K0	Race course along Eastern perimeter of burn	Nevada 1000
Del	G4UV	Race course along Eastern perimeter of burn	Nevada 1000
		Race course along Northern perimeter of burn	Silver State 300
Egan	GZ9J	n/a	
Gregerson	G3BL	Race course along western portion of burn	Nevada 1000
		The North Delamar Special Recreation Management Area is located in the Northeastern area of burn	
Kane	G5M1	n/a	
North Schell	GX6G	n/a	
Pahroc	GT9F	Several race courses are within burn area The Pahranagat Special Recreation Management Area is directly to the West of the burn perimeter	BITD Vegas to Reno Nevada 1000 Silver State 300 Gamblers Nevada 2000
Pinto	GZA5	The Loniest Highway Special Recreation Management Area is within the Southwestern area of the burn	
Range	G0HM	Several race courses are within the burn area	Coyotes
White Rock	GWD1	Race cource is within the South-western area of the burn	SNDR

Chapter 4. Environmental Effects:

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The following elements of the human environment are either not affected or are not present in the project area: Floodplains, Wild and Scenic Rivers, Prime or Unique Farmlands, Wastes – Hazardous and Solid, and Environmental Justice.

A. Vegetative Resources

Proposed Action

ESR plans are developed to protect and improve vegetative resources following fire. The proposed action would be expected to maintain or improve vegetation cover, production, structure, vigor, composition, and diversity. The combination of seeding applications including aerial and ground seeding is expected to improve seed/soil contact, facilitating vegetative recovery on the burned areas identified for seeding treatments. Seed caching treatments would increase the seed source for shrubs that were lost in the fire and are unlikely to return given pressure from non-native annual grasses. This is a affected environment statement, which should be moved or deleted. Soil stabilization treatments such as mulching and erosion structures will benefit vegetation by retaining top-soil on site. The proposed weed treatments will reduce the impact of noxious, non-native and invasive species on desirable plan communities. All herbicide treatments will be applied to BLM and herbicide label specifications to minimize effects on native or desirable vegetation. Fence construction and repair would put in place the necessary infrastructure to manage use of burned areas. Following standard invasive species stipulations in the Ely District RMP would minimize the impacts on vegetation during the construction of fences. Finally, closing the burned area post-fire will allow time for vegetation to recover. Since not all areas require treatment, areas with highest priority for seeding are identified by national, state and district priorities and evaluated by an interdisciplinary team. Native vegetation communities damaged by the fire would benefit from the proposed action by the interruption of the cheatgrass/red brome invasion fire cycle through seeding competitive, desirable species and implementing other components of the proposed action to support vegetation recovery. Seeded species could be native or non-native depending on suitability for the particular area. Only native species would be used in designated wilderness.

Improving seed/soil contact by seeding method, reduction of competitive non-desirable species, and soil stabilization, increases the probability of seed germination and decreases seed depredation by granivorous birds and mammals; however, soil surface disturbance can increase establishment rates for undesirable invasive annual grasses. Seeding treatment areas are determined with these trade-offs in mind and generally, the increased germination rates and decreased seed depredation can defray the risk of increased annual grass establishment within the burned areas. Implementing treatments in the first year following the burn reduces disturbance of naturally regenerating plants and favors the establishment of desirable species by taking advantage of winter moisture.

Some vegetation communities are damaged more readily and for longer periods than others. The blackbrush communities are highly susceptible to fire particularly when annual non-native grasses become established. Blackbrush may or may not return to a site following a fire, but generally a blackbrush community will not re-emerge in less than 60 years post-fire. Of all vegetation types burned in the 2012 fires, blackbrush-dominated communities are the least likely to recover naturally.

A variety of sagebrush communities dominate many of the fires analyzed in this document. Sagebrush burns readily but regenerates on a 25-year timeframe. Wyoming sagebrush usually occurs on deeper soils that are often conducive to successful seedings.

In most situations, the seed acquired for treatments is selected from the closest or most ecologically-similar source available; although, locally-collected seed is generally not available due to the timeframe and scale of treatments. Locally collected, site-specific seed is preferred for the benefit of vegetative resources; however, desirable seed species are preferable to invasive grass dominance. Where cheatgrass was present in thick density the response of native grasses and forbs is expected to be limited. If the proposed action is not implemented, cheatgrass is expected to re-invade and dominate these sites.

No Action

Under the no action alternative, the fire areas would not be reseeded or cached with shrub seed. Herbicide would not be applied to noxious and invasive species, the area would not be closed to use and fences would not be constructed or repaired to protect recovering vegetation. No treatments would occur that would provide intervention to protect vegetative resources and soils in the burn areas. The areas would be allowed to revegetate with species that survived the fire in the seed bank. In cases where fire-adapted, non-native annual grasses were present on-site, a monoculture of undesirable species is likely to establish.

Large-scale fires based on introduced annuals and fine fuels are a common threat to the future of most of the areas affected by the fires. Also, shorter intervals between fires would be expected as well due to invasive annual grasses, already becoming established throughout Lincoln and White Pine County. Natural native species recovery is expected to be limited in these areas without treatment.

B. Watershed Resources: Soil and Water

Proposed Action

The proposed action, in part, is to reseed areas where vegetation was lost during the fire. Under the proposed action, vegetative communities would be more quickly established through the different seeding methods, protection from grazing by livestock and wild horses and monitoring for weeds. This would lessen the risk of accelerated soil loss by wind and water erosion, lessening the risk for loss of site potential due to soil degradation.

It is likely that annual grass establishment would be decreased. Because annual grasses carry fires, reduced annual grass density would be expected to decrease fire frequency and therefore benefit soil and water.

Some soil disturbance would occur during seed drilling and fencing activities in the short term over defined areas. In the development of ESR plans, soil-type, and likelihood of negative impacts due to soil disturbance are taken into account. With application of best management practices, impacts would be minor. Examples of SOPs would include: excluding soils with extreme potential for erosion, working when soils are not wet, no new road construction, etc. In the long-term, these actions would add native seeds to the soil seed bank thereby providing protection.

No Action

Under the no action alternative, establishment of vegetative communities would not be accelerated, but would be allowed to develop naturally over time. Slower establishment would put soil at increased risk for erosion, risking loss of site potential. There would not be any direct disturbance to soils for seeding, seed caching, and fence construction treatments. In the long-term, soil resources may be impacted by a loss of a native plant communities, increase

in fire-return interval, and decrease in top-soil. Small areas could suffer local soil loss due to the lack of vegetative cover over many years to protect the topsoil. The likely increase in fire frequency under the no action alternative may further deplete the soil seedbank. Soils with poor native seed banks such as those areas previously invaded with cheatgrass or red brome grass would not be seeded to interrupt the fire-cheatgrass-fire cycle. Larger fires in subsequent years could increase without seeding intervention.

Fire may change erosion potential by altering soil profile properties. Soils can become hydrophobic if a fire burns hot and has a long residence time. Hydrophobic soils have lower infiltration rates and increased runoff. This poses a problem if soil crusts are not broken up after a fire to allow seed to penetrate and germinate in the living soil surface.

C. Wildlife and Migratory Birds

Proposed Action

The majority of wildlife habitat lost to wildfire would be rehabilitated through revegetation and soil stabilization treatments. The proposed treatments would potentially increase the rate of recovery of native vegetation, improving habitat and forage for wildlife. Seeding native and non-native grasses and forbs would benefit wildlife and migratory birds by reducing the likelihood of non-native annual grass establishment in areas deemed as high risk. Reseeding sagebrush and bitterbrush in high value habitat areas will in the long-term benefit mule deer and elk, as well as other wildlife species.

Migratory birds and their habitat are given special consideration in the district because of the Migratory Bird Treaty Act of 1918 as amended, and the Memorandum of Understanding between the BLM and FWS, To Promote the Conservation of Migratory Birds (2010). These documents guide the timing of implementing actions which could be a disturbance to breeding birds. The Ely District bases survey requirement and avoidance dates to reduce impacts to migratory birds on the project location. Avoidance dates generally span from March 1 to July 31 but may vary from project to project based on the vegetation type(s), elevation, and migratory bird species found in the area. It is unlikely that any of the proposed activities would occur during this period. The proposed treatments are generally conducted to take advantage of winter moisture and ensure projects are completed prior to the first post-fire growing season. Other proposed actions, such as monitoring seeding success and minor spot treatments of noxious weeds would not cause population-level disturbance to breeding or nesting birds.

None of the treatments would cause a population-level impact to nesting birds.. Wildlife trees or trees with cavities would be left standing to provide necessary habitat to birds. Wildlife that have returned to or adjacent to the burned area may be temporarily displaced during treatments.

No Action

Under the No Action, native vegetation communities, which provide high quality wildlife habitat, are likely to be invaded by non-native annual grasses, out competing nutritious native grasses and forbs. Wildlife habitat may take longer to recover with native vegetation, temporarily or permanently displacing wildlife. The potential loss of thermal cover and forage could decrease reproduction and survivorship of all species.

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D. Special Status Animals and Plants

Proposed Action

The majority of sensitive specie habitat lost to wildfire would be rehabilitated through revegetation and soil stabilization treatments. The proposed treatments would potentially increase the rate of recovery of native vegetation, improving habitat and forage for sensitive species. The use of native and non-native perennial grasses and forbs would benefit sensitive species by reducing the likelihood of non-native annual grass establishment in areas deemed as high risk. Reseeding sagebrush will in the long-term benefit sage grouse, pygmy rabbit, and other sensitive sagebrush obligate species.

The presence of cheat grass and/or red brome within desert bighorn sheep habitat is highly detrimental as it increases the frequency of the fire cycle which decreases the availability of high quality native forage increases low quality non-native forage (cheat grass and/or red brome). The large volume wildlife water development for desert bighorn sheep has been analyzed for replacement within its existing footprint under the Environmental Assessment titled “Issuance of Authorizations to Nevada Department of Wildlife for Wildlife Water Development Inspection, Maintenance and repairs within BLM Wilderness Areas in Nevada" with Decision Record/Findng of No Significant Impact signed on January 13, 2012.

None of the treatments would cause a population-level impact to special status animals. Wildlife trees or trees with cavities would left standing to provide necessary habitat for sensitive birds or bats. Sensitive species that have returned or adjacent to the burned area may be temporarily displaced during treatments.

Standard Operating Procedures which apply to project planning and implementation in special status and sensitive species habitat are found in appendix 5 of this document.

No action

Under the no action alternative, habitat for sensitive species may take longer to recover with native vegetation, if at all, temporarily or permanently displacing wildlife. . Native vegetation communities are likely to be invaded by non-native annual grasses, out competing nutritious native grasses and forbs. The potential loss of thermal cover and forage could decrease reproduction and survivorship of sensitive species.

Further degradation to bighorn sheep habitat due to cheatgrass or red brome would be detrimental and should be expected without any seeding treatments or monitoring.

Plant communities containing extensive cover of non-native annual grasses or noxious weeds do not provide adequate forage or cover to support sage-grouse (Hagen 2011). Without seeding or herbicide treatments, sage-grouse habitat would likely be degraded for many years or even permanently lost in portions of the burned areas. Over the longer term (three or more years), noxious weed and invasive annual grass dominance in the burned areas would increase the risk of frequent wildfires and facilitate continued expansion into adjacent undisturbed habitat. Examples of this transition to annual grass dominance are visible in several other places on the District, including sites within the project area. These plant communities would not likely recover naturally, and would require extensive restoration effort before supporting suitable migratory bird habitat (Pyke 2011).

D.2. Threatened and Endangered Species

Proposed Action

The proposed action has the potential to affect desert tortoise. Section 7 consultation has been initiated to append this action to the Programmatic Biological Opinion for the Bureau of Land Management's Ely District Resource Management Plan (file No. 84320–2008–F-0078). Resulting terms and conditions from this consultation will be added to this project.

No Action

While the no action would not pose direct effects to desert tortoise, the indirect effects of not seeding desert tortoise habitat could lead to long term effects on tortoise habitat. The grass-fire cycle could continue to degrade tortoise habitat and replace healthy native Mojave vegetation with non-native annual grasses.

E. Noxious Weeds and Invasive Plants

Proposed Action

Under the proposed action, noxious and invasive plant populations would be treated with herbicide, or if new populations are discovered outside of the planned herbicide treatment areas, the weed(s) will be identified, and appropriate treatments will be proposed through a plan amendment.

Disturbance of soil surfaces caused by drill seeding or ATV harrowing could potentially increase the density of introduced annual grasses within the treated areas.

Management of noxious and invasive weed infestations would follow the July 2010 Ely District Integrated Weed Managemtent Plan. Treatments would include but are not limited to: Grazing Control, Physical Control (Hand Pulling, Mowing, Cutting using hand crews, cutting using heavy machinery, and Prescribed burns), and Chemical Control (Wipe/wick, Backpack application, Pack animal tank application, UTV/ATV tank application, Truck tank application, and Aerial application). All treatment methods would employ the proper safety precautions, and all chemical treatments will follow the direction of the label of any chemical being used. Herbicide treatment would only be conducted by those individuals carrying all the required permits and licenses required by the state of Nevada.

No Action

Under the "No Action" alternative, no burns would be reseeded by aerial or ground application. No invasive/noxious plant populations would be monitored and/or identified. The disturbance associated with the burn and the corresponding removal of vegetation would give noxious weeds and invasive plants an opportunity to become re-established, and increase in dominance and extent. Noxious weeds and invasive plant species would likely establish along roadways, washes, springs, streams and other corridors, and then spread to other portions of the burned area. Noxious and invasive weed species are already present in the project area, therefore it is very likely they will infest the burned area. The wide spread increase in abundance of non-native invasive *Bromus spp.* grasses would likely increase the frequency, size, and distribution of fires. This could in turn alter the historical ecological state, stopping the natural regeneration of native shrub and perennial forb species to recover.

Historically non-characteristic fine fuels that are present in the interspaces between shrubs allow fire to spread through the affected vegetation communities, even those that do not normally carry fire. These grasses are fire-adapted and generally return at higher abundance following fire, fueling a positive-feedback loop known as the grass-fire cycle (Brooks et al. 2004, D'antonio and

Vitousek 1992). Without the proposed actions, the threat of a unnatural fire cycle forming based on invasive, introduced grasses is high, particularly when accounting for current high-moisture trends in the local climate.

Under the "No Action" alternative, no disturbance of soil surfaces caused by drill seeding or ATV harrowing would occur.

F. Wilderness

Proposed Action

The proposed emergency stabilization and rehabilitation include aerial seeding, seed caching, weed treatments and inventory, soil stabilization activities, fence repair, emergency gather of horses, replacing boundary signs, and vegetation monitoring. A Minimum Requirements Decision Guide (MRDG) has been completed for this project. The MRDG determined the proposed action is the minimum activity.

Untrammeled — Aerial seeding, seed caching and herbicide treatment would all have a negative effect on the untrammeled character of wilderness. Aerial seeding the three fires would affect 10,850 acres across the three areas (Delamar Mountains, South Egan Range, White Rock) or about 5% of the three areas. Seed caching, would similarly affect the untrammeled character by affecting 250 acres of the South Egan Range Wilderness. Herbicide would affect 122 acres on the Delamar Mountains Wilderness. The aerial seeding treatments and seed caching would naturalize very quickly, being unnoticeable as a trammel within a year. The herbicide would continue to be a trammel for the 3-5 year effectiveness of the herbicide (depending on conditions when it is deployed and thereafter).

Fence repairs (2 miles) would not have an additional trammeling effect on the wilderness character since they were pre-existing and would simply be repaired. Monitoring and survey work would also not affect the untrammeled character. Livestock closures would have a limited positive effect on the untrammeled character for the duration of the closure.

Undeveloped — Aerial seeding and aerial herbicide are considered the equivalent of an aircraft landing, since the aircraft is dropping material to the ground. This, therefore, has a negative impact on the undeveloped quality. This quality is only impaired during the aerial seeding/herbicide treatments, which is projected to take about two weeks over the entirety of the proposed acreage (10,977 acres). The other treatments would not affect, positively or negatively, this quality.

Natural — While fire is a natural component of the wildernesses, the frequency of the fires in the Mohave, and the proliferation of non-native, invasive grasses post-fire are not natural.

Both the aerial seeding and seed caching would benefit the naturalness of the wilderness by establishing a native seed bank. Latter, native forbs, perennials and shrubs would establish within the burned area in an effort to outcompete the non-native, invasive annual grasses. The herbicide treatment is interrelated to the seeding treatment– the herbicide protects the seeding giving the plants time to establish and to reduce the likelihood of reburn across the entire wilderness. The wild horse gather, if performed, and the livestock closures would have a positive impact on the naturalness of the area with fewer horse related impacts to the springs of the area and no grazing impacts. While this reduction in numbers would improve naturalness, the overall reduction in horses would not be dramatic, with only 60 horses being removed.

Outstanding opportunities for solitude or a primitive and unconfined type of recreation — Aerial seeding and aerial herbicide application would affect visitors to the wilderness by disrupting solitude as airplanes fly over the wilderness at low altitudes. This disruption would last for about 2 weeks (seeding) and 1 day (herbicide) total, across all treated areas. Seed caching would impact solitude as crews on the ground for about one week to perform the treatment. Weed survey and monitoring would impact solitude as crews are on-the-ground completing these activities. On average, one week per year per wilderness would have a crew comprised of three people monitoring. The fence repairs would take more time, as the crew (5 people) would be hiking in to the two miles of fence. The work is anticipated to take four or five weeks.

Opportunities for primitive and unconfined recreation would not directly be affected by the proposed treatments. Opportunities for hunting and sightseeing would be indirectly benefited by the re-establishment of native, functioning plant communities, and improved wildlife habitat.

No Action

Under the no action alternative, none of the proposed treatments described above would be performed. Direct temporary impacts to the solitude of wilderness would not occur.

Untrammeled — This alternative, by not treating non-native, invasive species, would have some continuing negative effect on the wilderness character of untrammeled. While the additional impacts to untrammeled that would occur under the other alternative would not occur here, there would still be the lasting effect of heavy cheatgrass invasion, which is a result of human introduction of the non-native species.

Undeveloped — There would be no negative or positive impacts to the undeveloped character of wilderness.

Natural — The natural character of wilderness would suffer under this alternative as non-native, invasive plant species would proliferate across the wildernesses. Further, the fire regime, which is unnatural for the fires in the Mohave, would continue to be pressed further out of natural parameters.

Outstanding opportunities for solitude or a primitive and unconfined type of recreation — Opportunities for solitude would not be negatively affected as no proposed actions would be implemented. Opportunities for primitive and unconfined recreation would not directly be affected by the no action alternative. Indirectly, opportunities for hunting and sightseeing may be negatively impacted by the establishment of non-native invasive annual grasses, and a continued unnatural fire regime, which would negatively impact wildlife and its habitat.

G. Visual Resource Management (VRM)

Proposed Action

Construction of temporary facilities would fit management objectives based on VRM classifications. Seeding the burned landscape would minimize the visual impacts to the existing character of the landscape.

No Action

In the long-term, and over a large-scale, visual resources could be impacted by the dominance of noxious weeds and invasive plant species within the burned area. Burn scars can remain

a dominant visual factor for decades particularly when they are dominated by cheatgrass or red brome.

H. Cultural Resources, Historic Properties and Paleontology

Proposed Action

In accordance with the State Protocol Agreement between the Nevada BLM and the Nevada State Historic Preservation Office (2011). Any surface disturbing activities which avoid direct impacts to listed or eligible National Register of Historic Places properties may proceed if avoidance measures are documented (Protocol Appendix F Part J Fire Rehabilitation Projects). The proposed action of seeding, chaining, raking, harrowing and aerial application of seed would avoid impacts on archeological resources and National Register significant characteristics of site, districts, buildings, structures and objects through assessment of existing inventory and in-field inventory in accordance with the Protocol Agreement procedures for the ESR Program. The proposed aerial seedings are exempted from the State Protocol Agreement as follows: *Appendix C: Categorical Exemptions: 1. Reintroducing endemic or native species into their historical habitats in ways that do no involve surface disturbance.*

Field inventory and avoidance would be undertaken for approximately 8,100 acres on 5 fires (7,672 acres planned for drill seeding); approximately 5 miles of new temporary fence construction and installation of one cattle guard would be inventoried prior to construction so that significant characteristics of National Register Properties would be avoided. All this work would result in additional inventory information added to the appropriate cultural database(s).

The proposed fence maintenance actions are exempted from the State Protocol Agreement as follows: *Appendix C: Categorical Exemptions: 2. Maintaining, replacing or modifying existing projects, facilities, routes, or programs that does not disturb additional surface area, or historic properties; or where the ground has been previously disturbed to the extent that historic properties could not exist; or where the facility itself is not a historic property.*

Other project actions are not ground disturbing (aerial seeding of approximately 21,218 acres, weed treatments and monitoring) or would have archeological assessments conducted pursuant to a separate EA (Wild Horse removal).

No Action

Under the no action alternative, any fire or erosion sensitive archaeological resources or historic properties would be subject to increased erosion and long term degradation. Aerial and ground seeding of perennial species would not occur and field assessments and inventories would not take place. The database of known sites and areas inventoried would not increase. Those sites previously obscured by vegetation would remain visible to the casual observer. A lack of natural vegetative cover could cause an impact to resources through looting and collection of artifacts and displacement through erosion. Fire resistant native and perennial vegetation would not be seeded increasing the likelihood of future catastrophic fires which would damage fire sensitive sites and increase erosion which would displace artifacts increasing loss of site integrity.

I. Wild Horses and Burros

Proposed Action

Under the proposed action, revegetation efforts including aerial seeding of perennial species could increase ground cover, provide forage for horses, and provide for desirable species composition to compete with non-native invasive annual grasses. This would result in improved rangeland health conditions in Herd Management Areas and provide for a long-term desirable perennial forage base for wild horses and burros.

No Action

Without action, seeding of perennial species would not occur. The lack of naturally regenerating perennial species and increase in abundance of non-native invasive plants and noxious weeds would result in deteriorating rangeland health conditions. A long-term forage base for wild horses and burros would be depleted.

Horse gathers and removals are not analyzed in this document but would be analyzed in a subsequent EA and gather plan.

J. Livestock Grazing

Proposed Action

There are eighteen permittees on fourteen grazing allotments affected by the wildfires analyzed in this EA. The impacts to their cattle and sheep grazing operations would vary based some or all of the following criteria: 1) where, and to what extent, the fires occurred on their grazing allotments; 2) how many pastures and/or allotments per permittee were impacted by wildfire; 3) whether they are actively using the permits or are taking non-use; 4) whether they can continue to graze their allotments while effectively keeping livestock off the burned areas during the rehabilitation period; 5) the vegetative type and importance of that vegetative type to the livestock operation; 6) the vegetative condition of areas of the allotments not burned and 67) cumulative impact of recent fires.

The areas affected will suffer short term vegetation loss due to fire and erosion. All burned areas would be closed to livestock grazing until site specific objectives, outlined in the grazing closure decisions, are achieved. Closure of the burned areas may have negative impacts on the livestock operators due to closure of normally grazed pastures/allotments, reduced AUM's and/or changes in season of use. The affected allotments would recover at different rates due to soils, pre-fire rangeland health conditions, fire intensity, and climatic conditions. Once the site specific objectives are met, the closures would be lifted or modified. Long term impacts associated with the wildfires and proposed treatments could have beneficial impacts on livestock grazing. These impacts could include increased vegetative diversity of perennial plant communities, increased production, and improved livestock distribution.

The proposal to build up to five miles of temporary fence to protect seeding treatments on the Egan and North Schell Fires will have negligible, temporary impacts to livestock grazing. Fences would exclude livestock from the treated burned areas, resulting in a short term loss of acres available for grazing. The temporary fences would be constructed and then removed following the achievement of site specific objectives, resulting in limited long term impacts. Approximately twenty miles of fences were damaged during the fires and will be repaired and/or rebuilt.

No Action

Under the No Action alternative, grazing closures would not be implemented as described in the Proposed Action, fences would not be installed or rebuilt, and efforts to reestablish perennial vegetation would not occur.

K. Areas of Critical Environmental Concern

No Areas of Critical Environmental Concern were affected by the 2012 Fires.

L. Recreation

Proposed Action

Construction of new fence around any of the burned areas could potentially affect race courses within Special Recreation Management Areas in the vicinity of some burns, as well as limit other dispersed recreation such as hunting, hiking, and OHV riding. Table 20 contains a list of affected recreation by fire.

No Action

Under the "No action" alternative, no fence would be constructed to hinder recreation in the short term. However, without treatment, habitat for game animals would likely be negatively affected, decreasing hunting opportunity in the long term.

M. Fire Management

Proposed Action

The proposed actions of controlling weeds and invasive annual grasses and reestablishment of desirable, site-appropriate perennial plants would aid in the restoration of fire regimes to a more historic range of variability.

No Action

Under the No Action alternative, increased establishment and dominance of invasive annual grasses would occur. In this scenario, fires would become more frequent, possibly larger in size, causing a further departure from the historic range of variability.

Chapter 5. Cumulative Impacts

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According to the 1994 BLM handbook, "Guidelines for Assessing and Documenting Cumulative Impacts," the analysis can be focused on those issues and resource values identified during scoping that are of major importance. These issues are outlined in the introduction and affected environment sections of the EA. Nearly all identified issues pertain to the loss of desirable vegetation communities, and the associated impacts on the health of watersheds, rangelands and habitats they protect and support. A discussion of past, present and reasonably foreseeable future actions follows as the pertain to the major issue of watershed, rangeland and habitat health.

A. Past Actions

Fires have been stabilized and rehabilitated for many decades, and have increased as fire activity increased in the mid-1990's. Past actions include reseeding with native and non-native grasses, forbs and shrubs, constructing and repairing protective fencing, removal of horses, closures to livestock grazing, installation of soil stabilization structures, management of noxious species, planting shrubs and monitoring.

B. Present Actions

The BLM performs similar actions as those proposed in this EA on appropriate areas. Similar actions include vegetation and habitat improvement projects, and treatments designed to reduce fuels while encouraging natural fire regimes. Seedings, prescribed burns, mechanical fuels reduction projects, etc are common management activities performed throughout the Bureau.

C. Reasonably Foreseeable Future Actions

Based on the documented increase in fire over the last 10 years- even in areas not formerly considered at high-risk for fire- it is reasonable to expect many large fires on the Ely District in the future. Future actions would likely consist of similar stabilization actions identified in this EA and in the ESR handbook, dependent on site characteristics.

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Chapter 6. Tribes, Individuals, Organizations, or Agencies Consulted:

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Table 6.1. LIST OF PERSONS, AGENCIES AND ORGANIZATIONS CONSULTED

NAME	PURPOSE & AUTHORITIES FOR CONSULTATION OR COORDINATION	FINDINGS AND CONCLUSIONS
Nevada Department of Wildlife	To identify key wildlife habitat and discussion on proper treatments for rehabilitation.	NDOW is supplying additional seed to be applied on each fire analyzed in this document.
USForest Service	Coordination of treatment plan on fires that burned over agency boundaries.	Treatment plans have been shared between agencies
US Fish and Wildlife Service	Consultation on treatments has been initiated to assure compliance.	Design features of treatments will comply with consultation findings.
Eastern Nevada Landscape Coalition	Consultation to develop site-appropriate seed mixes and treatment techniques and needs for post fire monitoring	Site appropriate seed mixes were developed and a post-fire monitoring plan was drafted.

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Chapter 7. List of Preparers

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[Enter the Preparers List here.]

Table 7.1. LIST OF PREPARERS

NAME	TITLE	RESPONSIBLE FOR THE FOLLOWING SECTIONS(S) OF THIS DOCUMENT
Erica Husse	Rehabilitation Manager	Reviewer/Editor
Moira Kolada	Wildlife Biologist and Range Specialist	Reviewer/Editor
Nick Pay	Cultural Resources Specialist	Cultural Resources
Lisa Gilbert	Cultural Resources Specialist	Cultural Resources
Chris McVicars	Noxious and Invasive Weeds Coordinator	Noxious Weeds and Invasive Plants, Recreation, Reviewer/Editor
Cameron Boyce	Ecologist	Livestock Grazing, Vegetation Resources
Solomon Odom	Planning and Environmental Coordinator	Reviewer/Editor
Travis Young	Planning and Environmental Coordinator	Reviewer/Editor
Andrea Cox	Rangeland Management Specialist	Livestock Grazing, Vegetation Resources
Jake Ferguson	Rangeland Management Specialist	Livestock Grazing, Vegetation Resources
Mark Lowrie	Rangeland Management Specialist	Livestock Grazing Vegetation Resources
Ken Vicencio	Rangeland Management Specialist	Livestock Grazing, Vegetation Resources
Mark D'Aversa	Hydrologist	Soils and Water
Nancy Herms	Wildlife Biologist	Wildlife and Migratory Birds, Special Status Plant and Animals
Alicia Styles	Wildlife Biologist	Wildlife and Migratory Birds, Special Status Plant and Animals, Threatened and Endangered Species
Emily Simpson	Wilderness Planner	Wilderness

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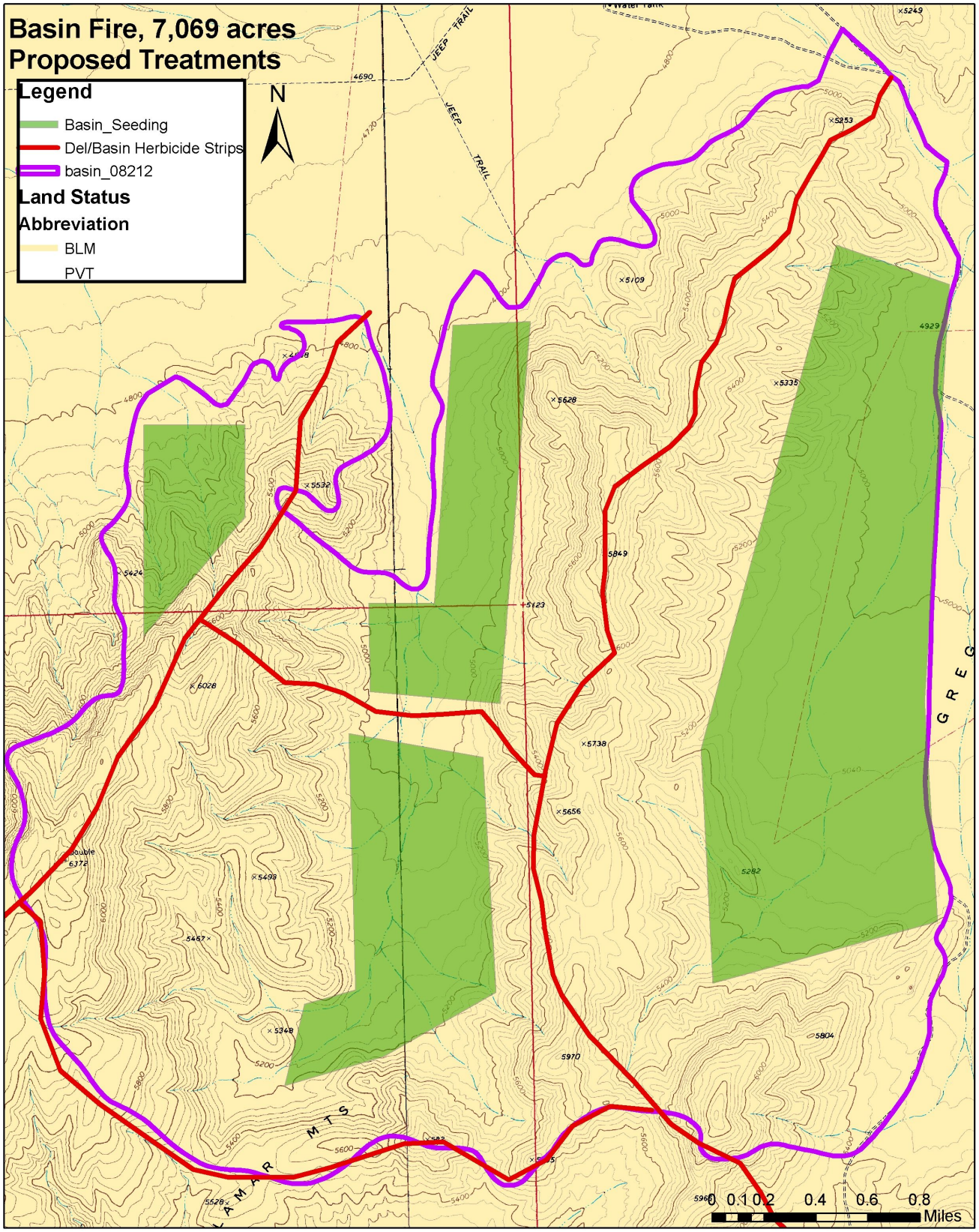
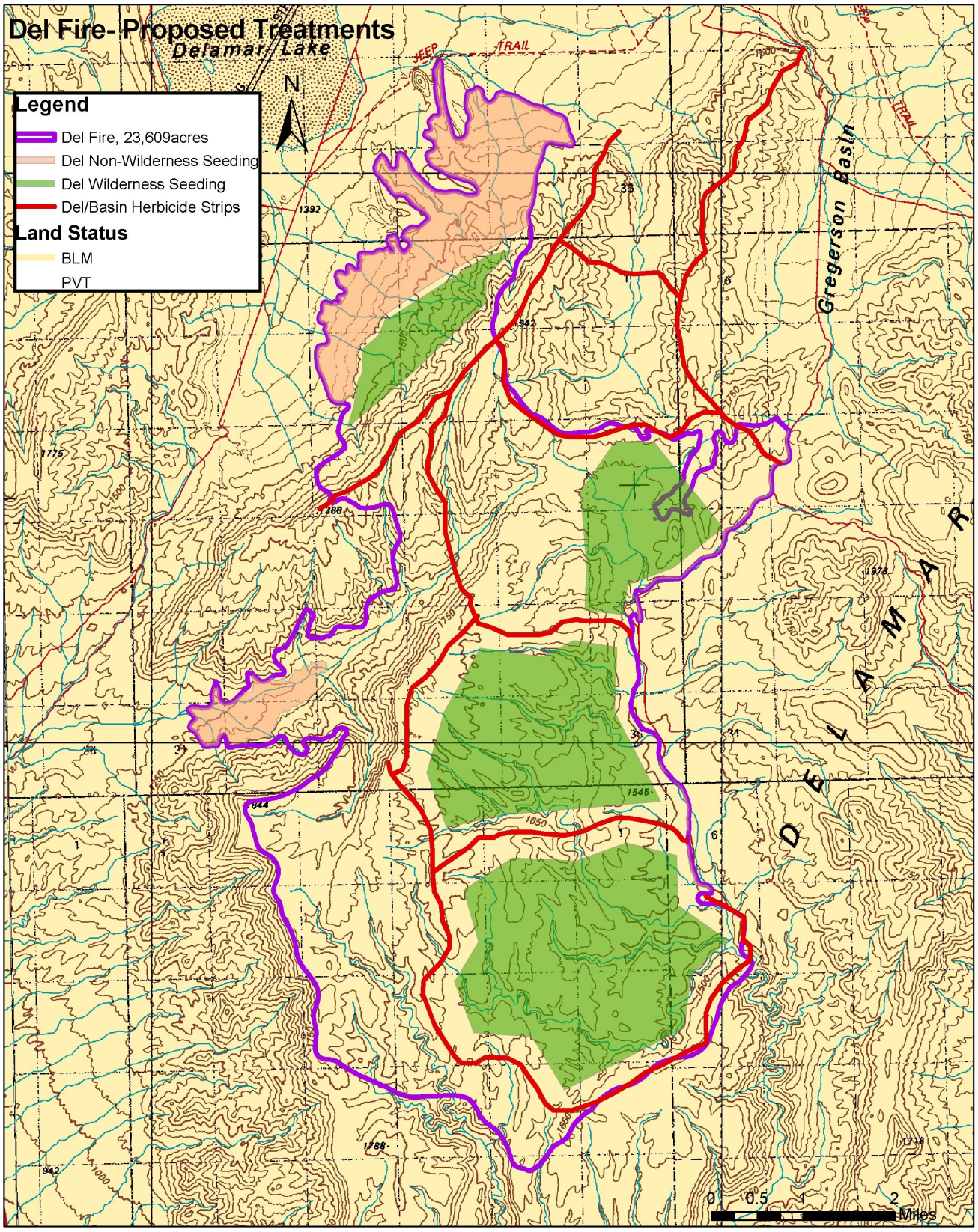
Appendix A. Treatment Maps



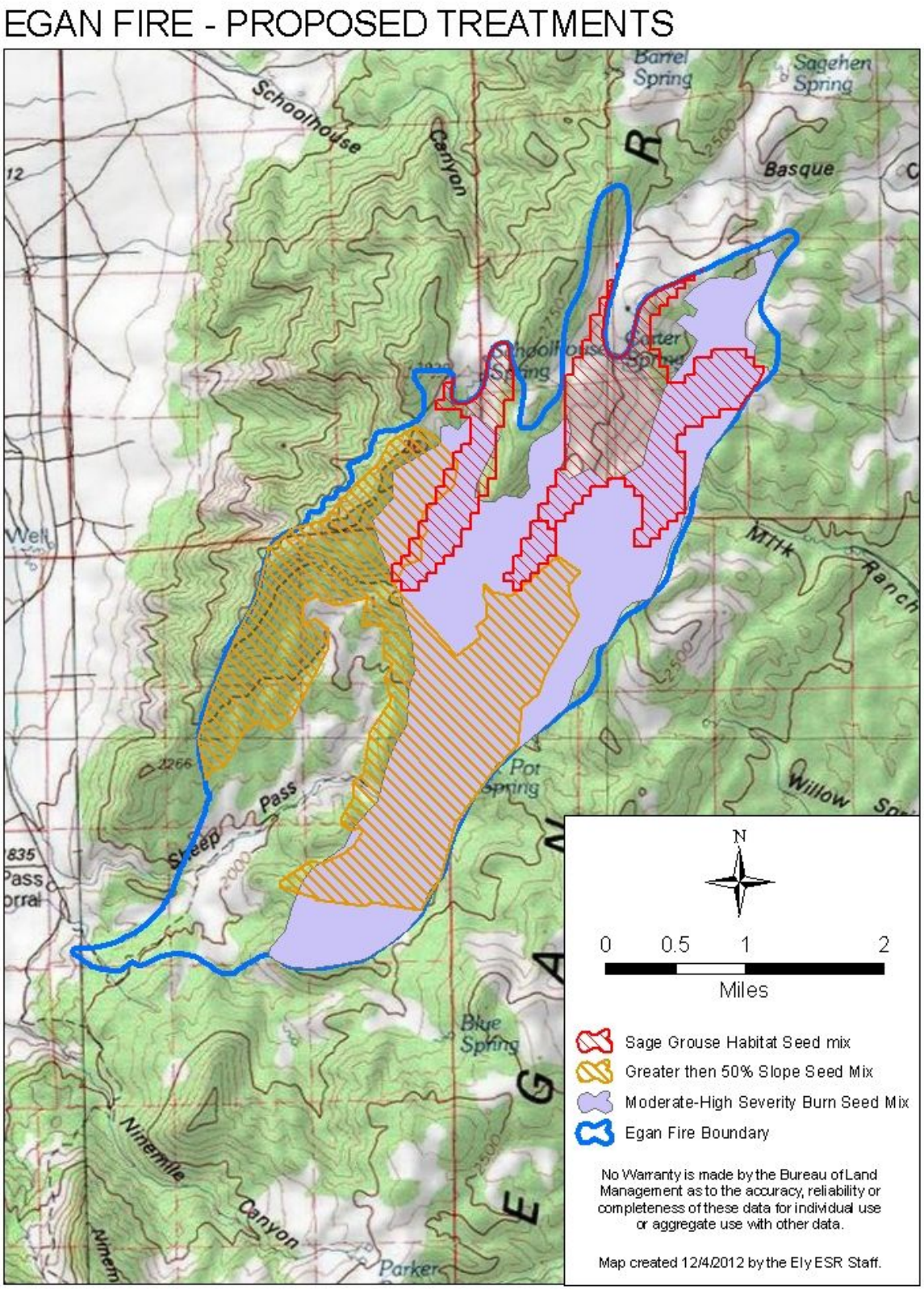
Appendix A Treatment Maps

Map A.1. BASIN FIRE PROPOSED TREATMENTS

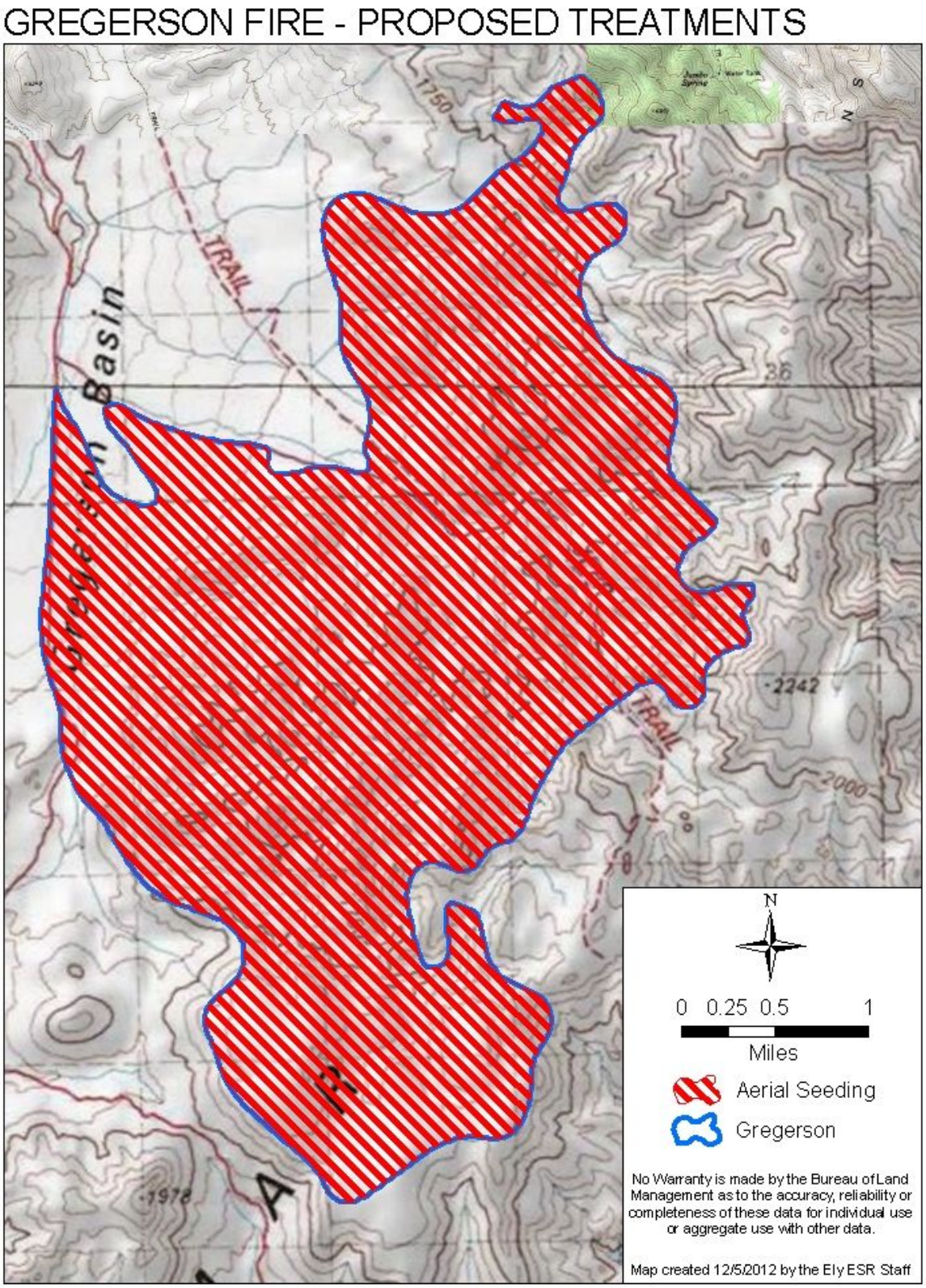


Map A.2. DEL FIRE PROPOSED TREATMENTS

Appendix A Treatment Maps

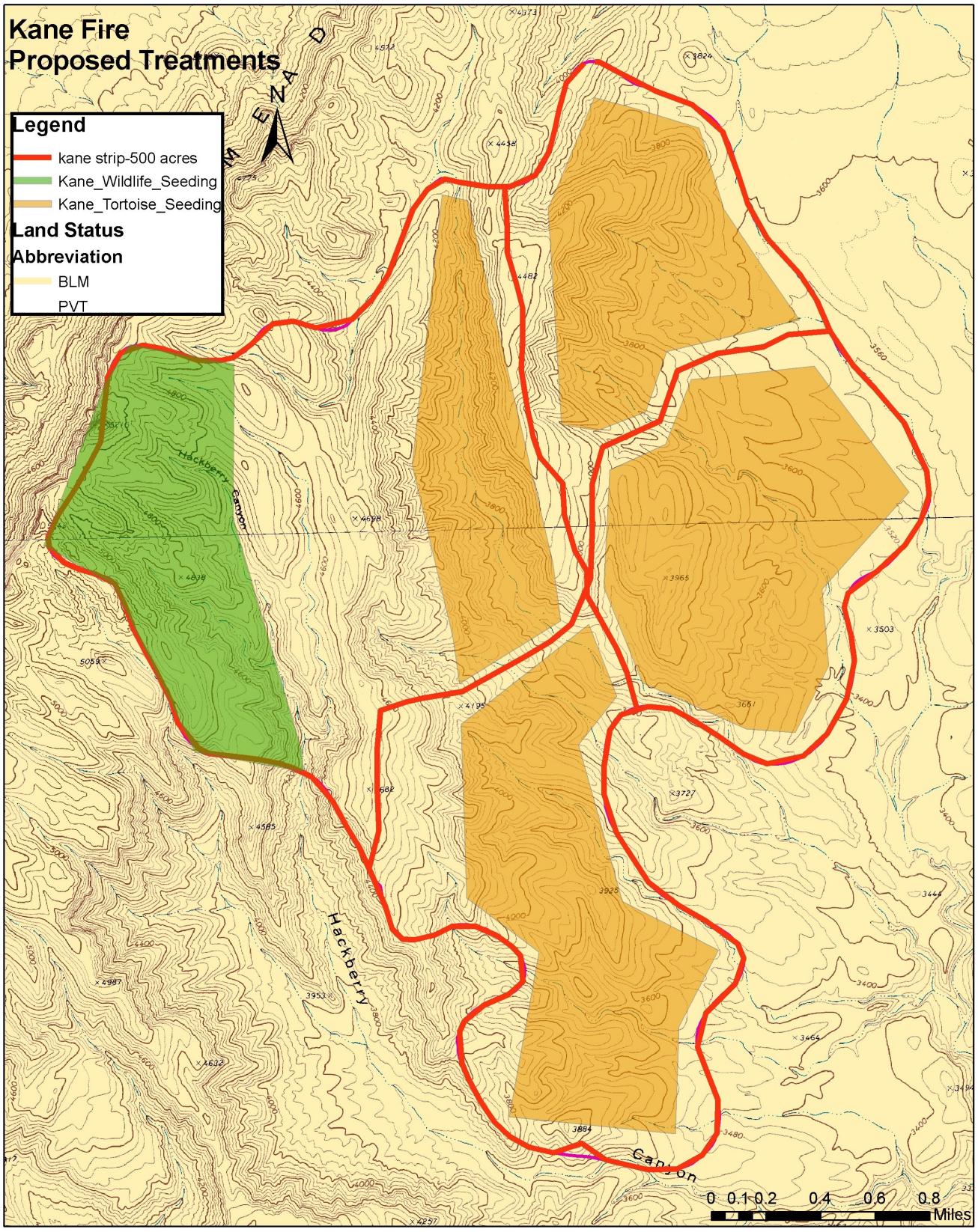


Map A.3. EGAN FIRE PROPOSED TREATMENTS

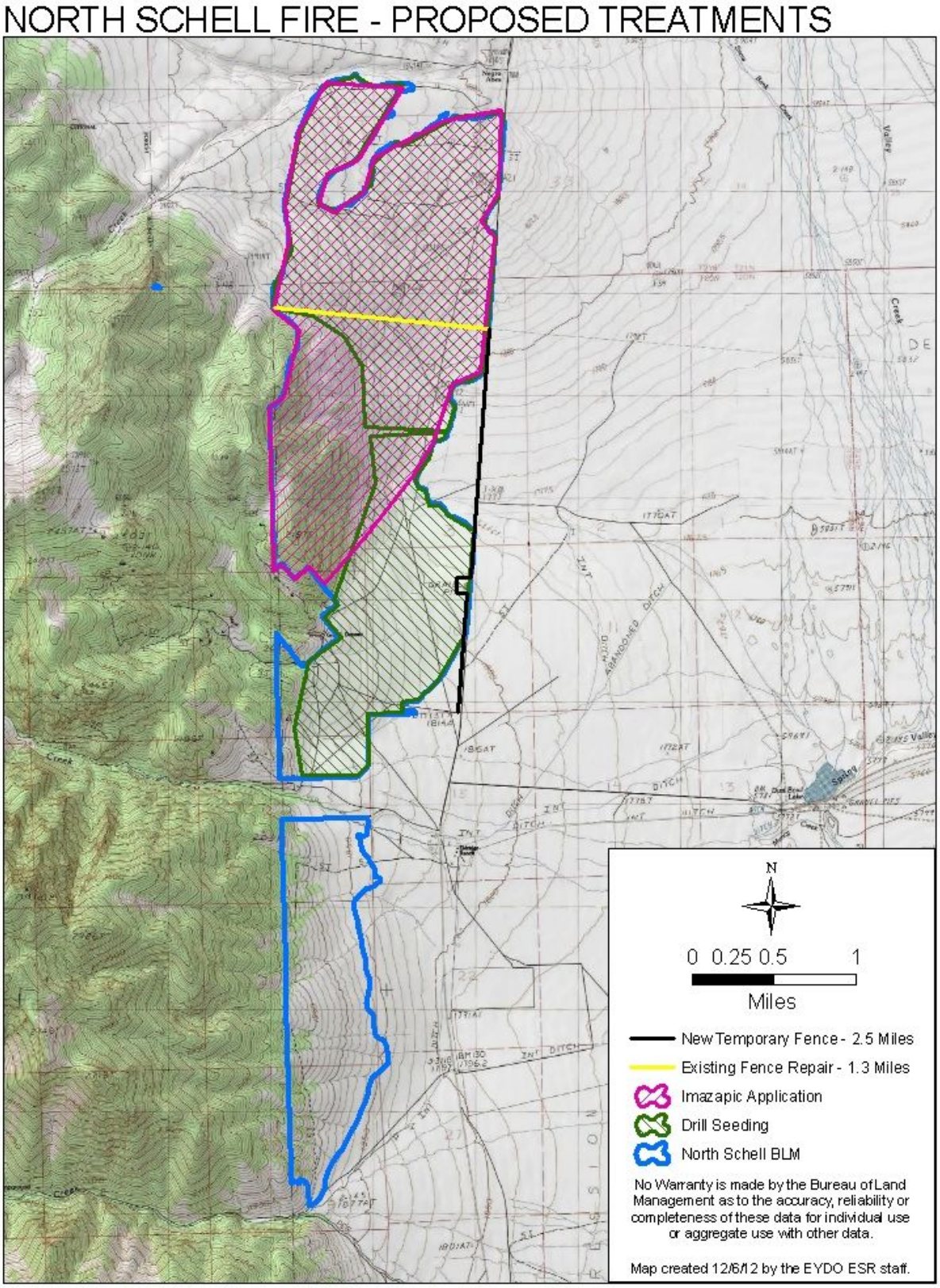


Map A.4. GREGERSON FIRE PROPOSED TREATMENTS

Appendix A Treatment Maps

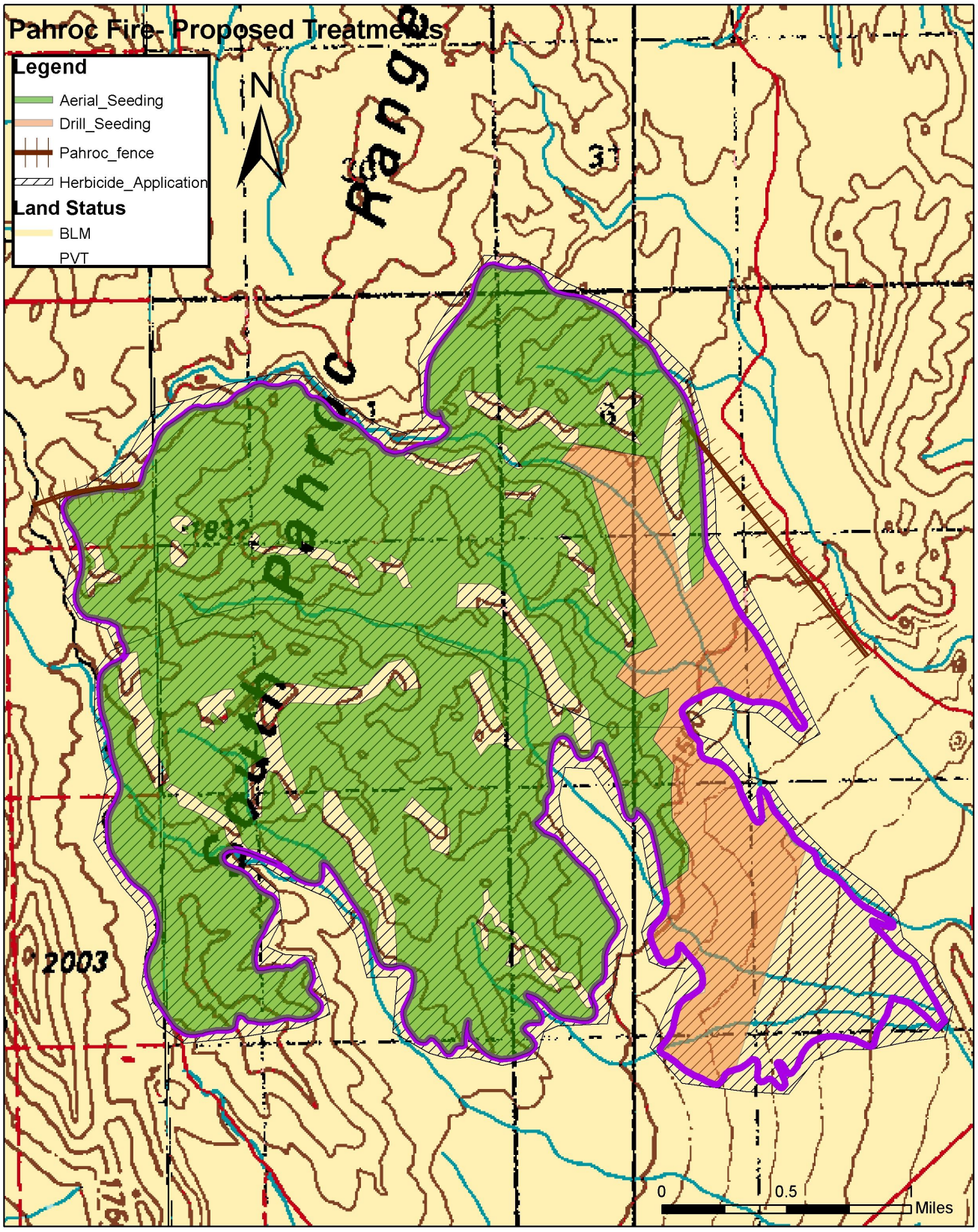


Map A.5. KANE FIRE PROPOSED TREATMENTS

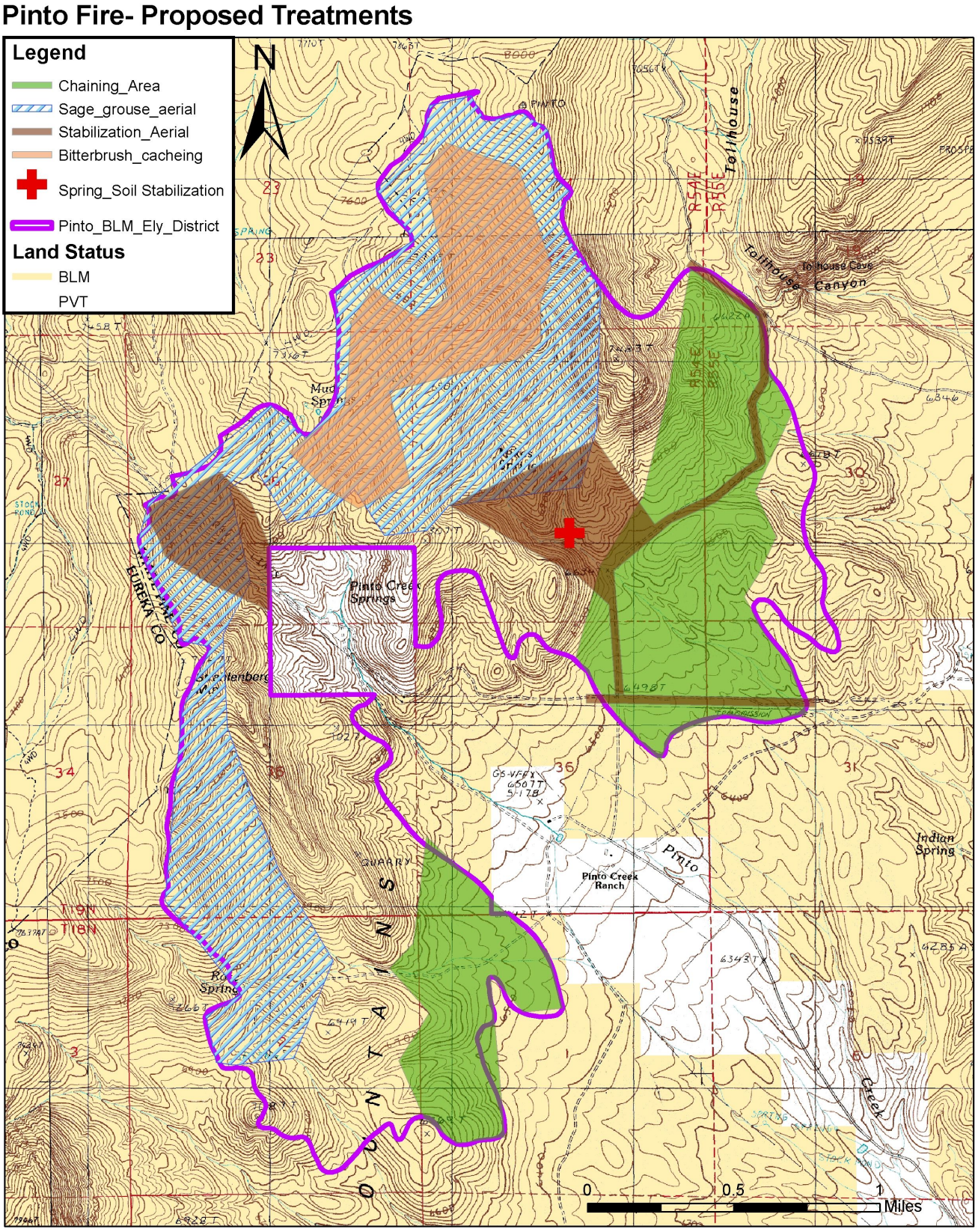


Map A.6. NORTH SCHELL PROPOSED TREATMENTS

Appendix A Treatment Maps

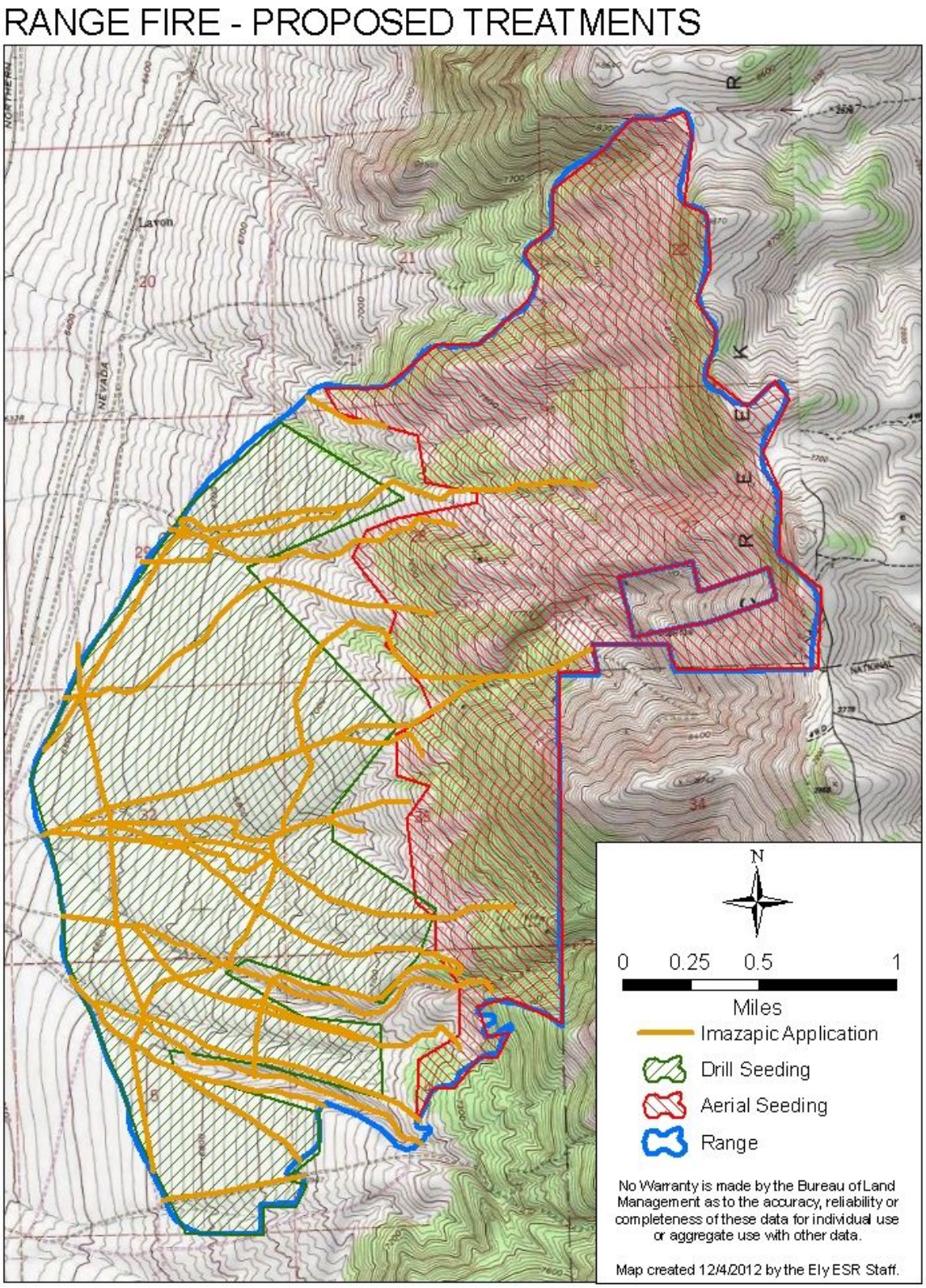


Map A.7. PAHROC FIRE PROPOSED TREATMENTS

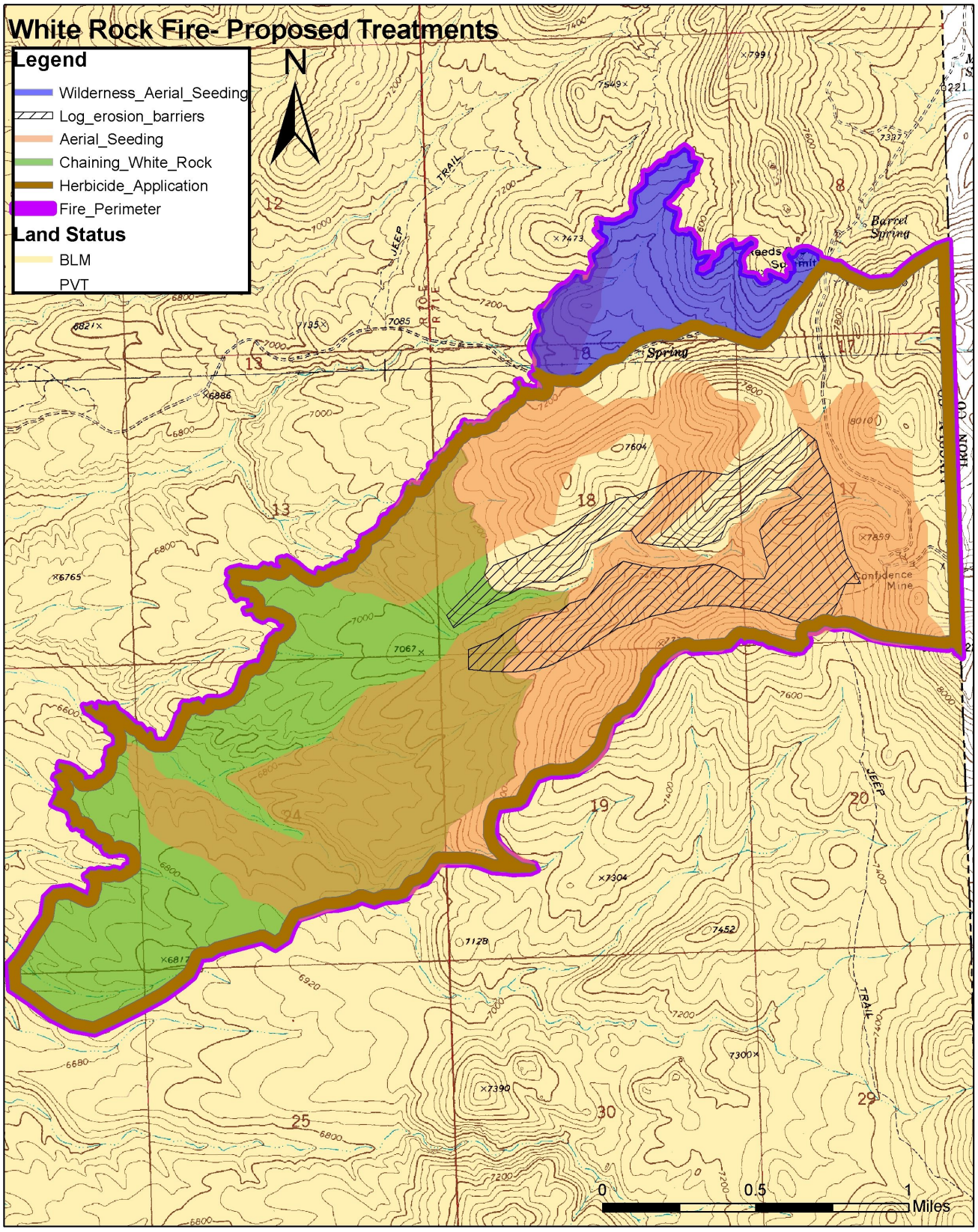


Map A.8. PINTO FIRE PROPOSED TREATMENTS

Appendix A Treatment Maps



Map A.9. RANGE FIRE PROPOSED TREATMENTS



Map A.10. WHITE ROCK FIRE PROPOSED TREATMENTS

Appendix A Treatment Maps

Appendix B.

Table B.1. ELY DISTRICT SPECIAL STATUS

Scientific Name	Common Name
Amphibians	
Rana onca	relict Leopard Frog
Rana pipiens	northern leopard frog
Birds	
Accipiter gentilis	Northern Goshawk
Aquila chrysaetos	Golden Eagle
Athene cunicullariaa hypugaea	Western Burrowing Owl
Buteo regalis	Ferruginous Hawk
Buteo swainsoni	Swainson's Hawk
Centrocercus urophasianus	Greater Sage-grouse
Charadrius alexandrinus nivosus	Western Snowy Plover
Coccyzus americanus	Western Yellow-billed Cuckoo
Empidonax traillii extimus	Southwestern Willow Flycatcher
Falco peregrinus	Perigrine Falcon
Gymnorhinus cyanocephalus	Pinyon Jay
Haliaeetus leucocephalus	Bald Eagle
Lanius ludovicianus	Loggerhead Shrike
Leucosticte atrata	Black Rosy-finch
Melanerpes lewis	Lewis's woodpecker
Oreoscoptes montanus	Sage Thrasher
Spizella breweri	Brewer's Sparrow
Toxostoma bendirei	Bendire's Thrasher
Toxostoma lecontei	Le Conte's Thrasher
Fish	
Catostomus clarkii ssp. 2	Meadow Valley Wash desert sucker
Crenichthys baileyi baileyi	White River Springfish
Crenichthys baileyi grandis	Hiko White River Springfish
Crenichthys nevadae	Railroad Valley Springfish
Empetrichthys latos	Pahrump Poolfish
Gila bicolor isolata	Independence Valley tui chub
Gila bicolor newarkensis	Newark Valley tui chub
Gila bicolor ssp. 7	Railroad Valley tui chub
Gila elegans	Bonytail chub
Gila robusta jordani	Pahranagat roundatil chub
Gila seminuda pop. 2	Virgin River chub (Muddy River pop.)
Lepidomeda albivalis	White River Spinedace
Lepidomeda mollispinis pratensis	Big Spring spinedace
Moapa coriacea	Moapa dace
Oncorhynchus clarkii utah	Bonneville cutthroat trout
Relictus solitarius	relict dace
Rhinichthys osculus ssp 11	Meadow Valley speckled dace
Rhinichthys osculus ssp 7	White river speckled dace
Rhinichthys osculus velifer	Pahranagat speckled dace
Mammals	
Antrozous pallidus	pallid bat
Brachylagus idahoensis	pygmy rabbit
Corynorhinus townsendii	Townsend's big-eared bat
Eptesicus fuscus	big brown bat
Euderma maculatum	spotted bat

Eumops perotis californicus	greater western mastiff bat
Lasionycteris noctivagans	silver-haired bat
Lasiurus blossevillii	western red bat
Lasiurus cinereus	hoary bat
Microdipodops megacephalus	dark kangaroo mouse
Microdipodops pallidus	pale kangaroo mouse
Microtus montanus focosus	Pahranagat Valley montane vole
Myotis californicus	California myotis
Myotis ciliolabrum	western small-footed myotis
Myotis evotis	long-eared myotis
Myotis lucifugus	little brown myotis
Myotis thysanodes	fringed myotis
Myotis volans	long-legged myotis
Myotis yumanensis	Yuma myotis
Ochotona princeps	pika
Ovis canadensis	bighorn sheep
Pipistrellus hesperus	western pipistrelle
Tadarida brasiliensis	Brazilian free-tailed bat
Reptiles	
Gopherus agassizii	desert tortoise
Heloderma suspectum cinctum	banded Gila monster
Lampropeltis pyromelana	Sonoran mountain kingsnake
Sauromalus ater	chuckwalla
Insects	
Euphilotes bernardino minuta	Baking Powder Flat blue
Hesperia uncas fulvapalla	Railroad Valley skipper
Hesperia uncas grandiosa	White River Valley skipper
Pelocoris shoshone shoshone	Pahranagat naucorid bug
Phyciodes pascoensis arenacolor	Steptoe Valley crescentspot
Molluscs	
Pygulopsis aloba	Duckwater Pryg
Pyrgulopsis anatina	Southern Duckwater pryg
Pyrgulopsis cruciglans	tranverse gland pyrg
Pyrgulopsis landyei	Landyes pyrg
Pyrgulopsis merriami	Pahranagat pebblesnail
Pyrgulopsis orbiculata	sub-globose Steptoe Ranch pyrg
Pyrgulopsis peculiaris	bifid duct pyrg
Pyrgulopsis planulata	flat-topped Steptoe pyrg
Pyrgulopsis serrata	Northern Steptoe pyrg
Pyrgulopsis sulcata	Southern Steptoe pyrg
Pyrgulopsis umbilicata	southern Soldier Meadow pyrg
Pyrgulopsis villacampae	Duckwater warm springs pryg
Tryonia clathrata	grated tryonia
Plants	
Arctomecon merriamii	white bearpoppy
Asclepias eastwoodiana	eastwood milkweed
Astragalus calycosus var. monophyllidius	Torrey milkvetch
Astragalus ensiformis var. gracilior	Veyo milkvetch
Astragalus eurylobus	Needle Mountains milkvetch
Astragalus geyeri var. triquetrus	threecorner milkvetch
Astragalus lentiginosus var. stramineus	straw milkvetch
Astragalus oophorus var. lonchocalyx	long-calyx eggvetch

Astragalus uncialis	currant milkvetch
Botrychium crenulatum	dainty moonwort
Castilleja salsuginosa	Monte Neva paintbrush
Cymopterus basalticus	Intermountain wavewing
Epilobium nevadense	Nevada willowherb
Ericameria cervina	Antelope Canyon goldenbush
Erigeron ovinus	sheep fleabane
Eriogonum corymbosum var. nilesii	Las Vegas buckwheat
Eriogonum microthecum var. phoeniceum (Eriogonum microthecum var. arceuthinum)	scarlet buckwheat
Eriogonum pharnaceoides var. cervinum	Deer Lodge buckwheat
Eriogonum viscidulum	sticky buckwheat
Frasera gypsicola	Sunnyside green gentian
Grusonia pulchella	sand cholla
Ivesia arizonica var. saxosa	rock purpusia
Jamesia tetrapetala	waxflower
Llewisia maguirei	Maquire's bitterroot
Mentzelia argillicola	Pioche blazingstar
Mentzelia tiehmii	Tiehm blazingstar
Penstemon concinnus	Tunnel Springs beardtongue
Penstemon leiophyllus var. francisci-pennellii	Pennell beardtongue
Phacelia parishii	Parish phacelia
Sclerocactus blainei	Blaine pincushion
Sclerocactus pubispinus	Great Basin fishhook cactus
Sclerocactus schlesseri	Schlesser pincushion
Silene nachlingerae	Nachlinger catchfly
Sisyrinchium radicatum	St. George blue-eyed grass
Sphaeralcea caespitosa var. williamsiae	Railroad Valley globemallow
Spiranthes diluvialis	Ute ladies' tresses
Trifolium andinum var. podocephalum	Currant Summit clover
Viola lithion	rock violet